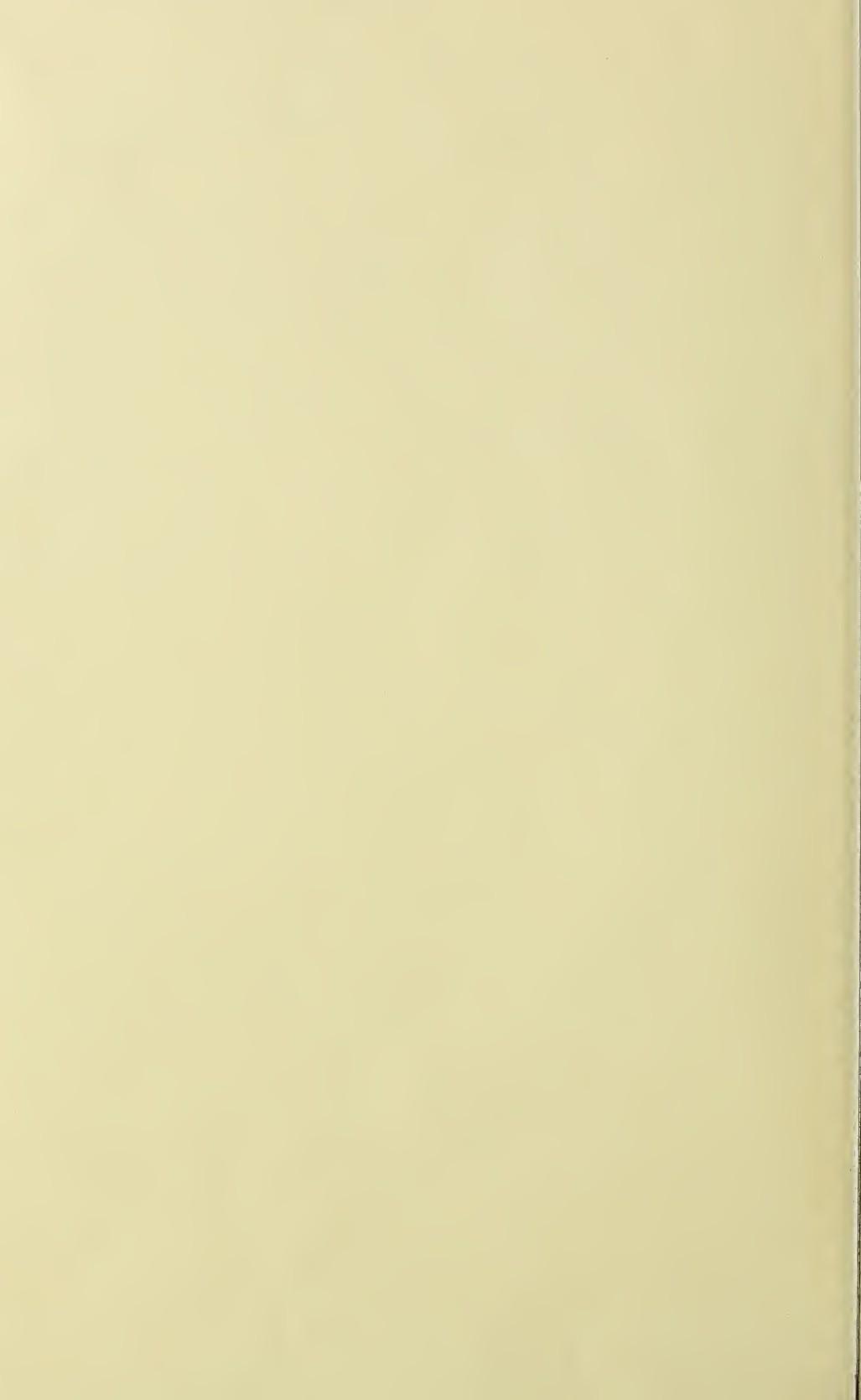


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GLEANINGS IN BEE CULTURE

A JOURNAL
DEVOTED
TO BEES,
AND HONEY,
AND HOME
INTERESTS.

ILLUSTRATED
SEMI-MONTHLY

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JUST AS I THOUGHT possible, F. B. Simpson did not mean in *Review* that long tongues were not of value *per se*. I find, however, that Hasty understood him just as I did; and when as bright a chap as Hasty gets from a sentence a meaning other than the intended one, there must have been some reckless use of the English language.

ONE OF THE ITEMS of September preparation for winter, given on p. 785, is to see that each colony has a good queen. Isn't it rather late for that, Bro. Doolittle? A good many of my colonies cease to rear brood in September. [Why late? It is a common practice with us, away up into October. Much of September with us is very warm. Sometimes we then have the hottest days in the year. Perhaps your locality is much colder.—ED.]

"DO THE GERMANS mean that feeding induces a drain on the vitality of the bees to ripen or invert the syrup?" is the question asked, p. 778. I think that is not the idea, but that the syrup lacks some elements contained in honey necessary to vigor of constitution. [If this is so, then the experience and practice of American apiarists seem to be quite the opposite of those in Germany. Of all things that were settled, I supposed it was that good sugar syrup, fed thin, and properly ripened, was a better food than any honey.—ED.]

SOMETIMES I find an article in a bee-journal which is too much of a puzzle for me to make out its meaning, and I feel out of patience with the writer, who might easily have made all clear if he had not omitted one or two additional points. It now seems that I have sinned in that way myself, for the astute editor of *GLEANINGS* could not make out my meaning, page 785, till he got one of our good British cousins to help him. I suggest that hereafter such articles be re-

turned to the writers to have the puzzles unpuzzled.

I INDORSE Arthur C. Miller when he says, page 780, "It is necessary to encourage the eminently practical though non-scholarly bee-keepers to contribute of their experience." And I suspect most of our bee-journals are trying to do that. [That is what *GLEANINGS* is trying to do. Indeed, I have more than once rejected articles from scientific men that, in my judgment, were too scientific, too theoretical, or too something, to be useful to the plain every-day bee-keeper who keeps bees for the money or for the bread and butter he can get out of them. In saying this I do not wish to give the impression that we have no use for scientific articles.—ED.]

A QUESTION that will some of these days need to be supplied with a new answer is this: "What is a tested queen?" The answer *has been*, "A queen whose three-banded workers show that she is pure Italian in origin and mating." But since the entrant of five-banders, as the editor correctly says, p. 790, there may be black blood in a queen which produces three-banded workers. That knocks out the old answer. What shall the revised answer be? Don't ask me. I don't know. [This is one objection to the rearing of five-banded bees. But that objection would have no weight with me providing I could see in color greater longevity or more pounds of honey.—ED.]

"RIDICULOUS" is the label that F. B. Simpson, in *Review*, puts on the notion that keeping a queen in a nucleus will beget longevity in her offspring. Sure. But it had escaped me that any one advocated such a notion. He says his breeders must do their duty in a full-sized hive, so he can compare them with others. All right, F. B.; but after a queen has fully established her reputation I like to give her a light job so as to keep her as long as possible. A queen I'm now trying to winter was born in 1897. After doing extra work during four years I felt she would be insulted if I had said, "Now let's see what kind of stuff's in you,"

so I gave her a soft job for 1901. [You are doing with your breeder just the very thing that we are doing with our best queen.—ED.]

WHAT YOU SAY on page 778 in that last Straw, Mr. Editor, squints in the direction of saying that every shoe must be made on the same last. I protest most earnestly against being obliged to take something I don't want, just because it is more convenient for the manufacturers. Charge what you will for the extra trouble of making more than one kind, but give those of us who want it and are willing to pay for it a cover that will not leak, warp, or twist, and that will be warmer in winter and cooler in summer than a single-board cover. [I might have added that the Root Co. proposes, in spite of the universal preference of the dealers for the Excelsior single-thickness cover, to furnish, on option, two double-board covers, one a gable and the other a simon-pure Dr. C. C. Miller double-lid cover with paper. There, now, don't you dare say the Root Co. is trying to make every shoe fit the same last. But we feel that we are compelled to make a poorer cover, in our judgment, "regular," until we can convince the trade that the double air-spaced one is better. It is simply a matter of education and time.—ED.]

"I HAVE SEEN queens that were balled and were stung to death inside of a minute," says the editor, p. 790. Did you ever know such a speedy death when you let the ball entirely alone, Mr. Editor? I never did. But holding a smoker close to the ball, and blowing *hot* smoke upon it, will prove instant death to the queen, and so may punching at the ball to try to get the queen out by force. [I can not remember that a queen was ever killed inside of one minute when the ball was left alone; but the one-minute execution referred to was by Cyprians. These bees, instead of buzzing around one's face, will make a shot straight from the comb, delivering the sting in one's face at the instant of contact; and, as nearly as I can remember, when they ball the queen they are inclined to make short work of her also. But, say—I did not recommend holding the smoker close to the ball of bees. I used the term "blowing light whiffs" of smoke on the ball. Our neighbor, Mr. Harrington, once had a queen, however, that would fight her way through any ball of bees we ever saw. For the sake of experiment he dropped her repeatedly into a number of different queenless colonies. If the bees commenced to ball her she would fight like a little tiger. In a day or two afterward we would find her reigning supreme, without let or hindrance.—ED.]

I ASK, page 785, whether we ought not to take 15 days instead of 16 as the time from the laying of the egg to the emerging of the queen. And then that exasperating editor says, "You are relying for your data on one experiment only," when I had just said, "In full colonies I have had many,

many incidental proofs that 15 days was the limit." Besides, do you think a man like Cowan would brush aside all the traditions of the fathers, and announce a new time-limit with nothing but data secured from a single experiment on which to base his belief? Aroynt thee! [Yes, you may be right; but I am not going to "aroynt" just yet, for you say you had many *incidental* proofs—italics mine. When we come to split hairs, or get down to the exact day, should not the proof be something more than incidental? Should it not be clear and positive? I admit the statement of Mr. T. W. Cowan, supposing it to have been based on many experiments, goes a long way; and for the time being, unless I get better proof, the next edition of the ABC will have the figures 15 instead of 16.—ED.]

YOU ASK, Mr. Editor, p. 778, how I know that the father of the drone's sister does not exert some potent influence on the drone himself. I may answer that Dzierzon, who at 90 is still vigorous in intellect, has always held that the drone is of the same blood as his mother. I do not think, however, that the drone with which a queen mates is entirely without influence upon her male progeny. If my memory is not at fault, there are cases on record in which a white woman bore a child to a negro, and afterward to a white man, and the second child showed distinct traces of negro blood. But I think the influence is so exceptional or so slight, that, in actual practice, we may say that a drone is not affected by the drone with which his mother mated. [Another fact, taken in this connection, is somewhat interesting. I have been told that, if a rooster of a Black Langshan, Black Minorca, or any pure-blooded black stock, gets into a pen of pure White Leghorn hens, or any other white stock, even for one day, that sittings of eggs from these hens will for many months afterward show chickens with black feathers, showing that the male of one variety can exert an influence long afterward, even though other males have been among the fowls for months. Notwithstanding Dzierzon has contributed to the world one of the most interesting facts in nature, neither he nor any other great man is always infallible; so I should be inclined to take the view that a drone was at least part brother to his worker sisters of the same mother.—ED.]

"BREED FROM THE BEST" has been the watchword with myself as well as others. F. B. Simpson, in *Review*, says we're off. Given 5 queens from the same mother, which 5 queens uniformly yield about 10 lbs. more than the average, and another 5 from another mother, which 5 zigzag all around from 35 below to 90 above the average, and he will breed from the first 5 rather than from the one that runs 90 above the average. Now if F. B. will tell us, as I'm afraid he will, that all intelligent breeders of note agree with him, I'll promptly 'bout face and stand in line with him; but if he's only

giving his own opinion, I've a choice assortment of abusive epithets laid up for him, and a lot of brickbats to fling at his battlements. I ought to explain that he reasons that the one that runs 90 above the average is a freak that will not give uniform results, while the 5 of the other mother, being uniform, may be relied upon for future results. [The recommendation of F. B. Simpson is one that we have been carrying out in practice for several years. A breeder whose queens are irregular, zigzagging from one extreme to the other, is one that will cause complaints from customers; but one that will give uniform results in markings, in prolificness, in gentleness, in every one of her daughters, is the one that we select for a breeder—providing, of course, that these daughters all score a high average; but if Mr. S. or any one else can find a mother, the bees of whose daughters will average in number of pounds of honey about the same under like conditions—well, we can not do it. The daughters of our best breeder nearly all score well in honey, but there is quite a variation. While the poorest will be no worse than the average, the best will be considerably better.—ED.]

cessible at any time for inspection and in appropriate condition to battle against any disease that may arise. Mr. B., his next door neighbor, is of the slip-hod, go-as-you-please make-up, and allows his bees to "uild their combs at haphazard, half-moons and all shapes that may suit their fancy, in their brood-chambers; and the consequence is, he is locking the door against all knowledge or treatment of any disease that is likely to turn up; he is also in shape to be (as it were) hugging an adder to receive its fatal sting and also to dispense its venom among his neighbors. When there is such a deadly foe as foul brood abroad in the land, these inaccessible hives are a veritable death-trap, and, so far as inspectors are concerned, they are simply barren from investigation, save what the exterior may reveal.

In our route through the country these troubles are so manifest, and there is such a universal cry against their toleration, that it seems to me a very easy matter to have a law placed upon our statutes, compelling every one who keeps bees to have them upon movable combs, built in movable frames, and, by so doing, minimize the chances for contagious diseases, besides doing away with the old slip-hod way of keeping bees. We believe that every wide-awake bee-keeper in the land should cry down the box-hive station-ry-com' evil, until every one who dares to keep bees would understand that to do so means they must be upon movable combs, or a penalty of a fine incurred.

We also believe that a little further protection is needed to the bee-keeper, by statute enactment; and that is, when a bee-keeper contemplates moving from one location to another he should have a certificate from a lawfully appointed inspector, the said certificate to be an assurance that each and every colony is free from all infectious or contagious disease, otherwise let it be a finable offense to remove them from their old location.



Regarding the sparing of bees' lives, Mr. Hasty says:

There gets afloat at times a considerable amount of sentimental nonsense and un wisdom, which would fain make us more careful of insect life than the Creator is himself, and which would make apiculture impossible before we got to its logical conclusions.



Dr. Miller says, in reply to a correspondent:

Don't think for a minute of using even the smallest proportion of sugar to finish sections. Just now about the greatest foe bee-keepers have to fight is adulteration; and for them to band together in a national association to fight it, and then feed sugar themselves to get sections finished, would be about as consistent as is the Christian man who prays 364 days in the year for the downfall of the saloon, and then on the 365th day votes to support it. If you want to have sections finished, use diluted honey. Very few, however, have been able to make it pay. Better sell, at reduced price, sections that are not finished, and let the bees empty out any that are less than half full.

Pile up outdoors supers of sections you want bees to empty, and allow entrance for only one or two bees at a time. If you allow a larger entrance, the bees will tear the combs to pieces.



PROGRES APICOLE.

The following is recommended. For want of a better name we will call them "honey jemcracks." They are doubtless good in both French and English: Mix together one quart of honey, one quart of powdered sugar, one quart of fresh butter, and the juice of two oranges. Incorporate with this, slowly, a little fine wheat flour, and make a dough of it thick enough to be rolled out; knead it, and beat it for several minutes, and finally roll it out with a rolling-pin in layers about half an inch thick. Cut out round cakes, like biscuit, and bake them on a light plate, greased with butter, with moderate heat.



Green were the leaves at sunset;
To-day they're sear and red;
Like men they play their proper part,
Then fall to earthy bed.



AMERICAN BEE JOURNAL.

Mr. York is about to publish the proceedings of the late Buffalo convention. As it consisted entirely of discussions on live questions it is likely that these minutes will be of unusual interest to bee-keepers. No essays were read. Don't miss a copy.



In regard to the spread of foul brood in California, Mr. J. M. Hambaugh writes an article of so much interest and importance that I give herewith most of it. The reader is requested to keep in mind that, a month ago, I gave the views of a French writer who deprecated the use of movable frames as being conducive to the spread of foul brood. Mr. Hambaugh takes the exact opposite, and his position seems sound.

Here in this salubrious clime, where every month in the year, and almost every day in the year, bees can go forth in quest of pollen and nectar, opens opportunity for the spread of infectious diseases; and this, coupled with the wild waste of rocky cliffs, canyons, and wooded districts, furnishes hiding-places for bees that can wreak and fester in disease un molested. It is hard for the wide-awake bee-keeper to overcome these dangers beyond his reach; but there is a danger of far greater magnitude right at his very door, that he needs to recognize, and which needs a cure in the form of a little legislation.

Here is Mr. A., a practical bee-keeper, with all his combs throughout his entire apiary movable, and ac-



MOVING BEES.

**Full Particulars; How to Ventilate the Entrance;
How to Avoid Accidents.**

BY R. F. HOLTERMANN,
Formerly Editor of the Canadian Bee Journal.

One hears and sees a good deal of late in connection with the question of moving bees to fall pasture. The question has been discussed at conventions and in the bee-papers. Permit me to make a statement in connection with the subject. Some years ago my attention was attracted by foreign journals to the question of migratory bee-keeping. This is carried on in England, but I believe still more in Germany; but I received no information from these sources as to the best way of moving bees. Experience and careful judgment had to be my teacher to a very great extent. For years I had to prepare and ship a large number of colonies to distant parts of Canada, and these have reached their destination in a uniformly gratifying condition; and of all the bees shipped, I know of only one case in which the colony perished, and that was where a hive of bees was shipped across the continent to British Columbia, and it was delayed by floods for about two weeks.

In our country the majority of bees are shipped for sale or purchase toward the close of spring. It is a time of year when the weather is very changeable, and, as a rule, the temperature at night is much lower than during the day. Again, on the train and perhaps on the railway platform the variations of temperature are very great. How to pack the bees, or, rather, prepare for all these emergencies, was a great problem which has been solved to my entire satisfaction. Simply putting a wire screen over the entrance and another over the top of the hive would answer all right for the hot weather or hives, but not for the cold, for we must remember that the bees do not cluster quietly over brood when constantly disturbed. First I prepared the top in the following manner: The front and rear of the top of the hive were covered with a thin board, and about a third of the top between the two boards had a wire screen, but constructed in the way of a pocket. This was an improvement. When too warm the bees could cluster in it; but it still had the great disadvantage of allowing the warmth to escape from above when the temperature was low.

I then used a portico at the entrance. This was suggested to me by Jacob Alpaugh. It is simply a wire-screen cage at the entrance of the hive, and into this the bees could pass and cluster when too warm. I make them with a wooden frame, and have

two wedges in the lower corner. These wedges shove into the entrance at either side of the hive; and help materially in holding the portico in place. Two little hooks and staples will do the rest of the holding, so not a nail need be driven when closing the hive. This has answered perfectly. It is surprising what relief such an arrangement gives to the strongest hive.

Over the combs at the top of the hive the quilt or cloth can be fastened, or even the cover with a clamp; then no air and warmth can escape from the top. The inside temperature the bees can regulate by ventilation and the number that go to cluster outside.

Let us for a moment look at the difference in the entrance with the old wire screen. The ventilation is very much checked by the wire screens across the entrance, and the current of air again retarded by the friction against the wires strung in regular order across the entrance, and the bees are absolute prisoners in the hive. With the portico made nearly the height of the brood-chamber, the width of the hive, and coming out nearly the distance of the alighting-board, the ventilation through the wires will be quite equal to the capacity of the entrance without any obstruction. Then the bees can come in large numbers out of the hive, as before stated. This applies to the preparation at all seasons.

From my experience with bee-keepers, and my own past thoughts, I know that many more would move bees if they could be prepared with less trouble than is at present generally necessary, and there will be greater certainty of a safe transfer to their destination. That this can be secured I do not think but *know*.

A hive can be used that at any time 100 colonies can be prepared in two hours before shipment. I can see no good reason for using any thing else than the self-spacing Hoffman frame as the the Root Co. and doubtless others make it. Some have asked me if they could use this frame in the old Langstroth which has no follower. My unhesitating answer is, "Yes!" There is no need of a follower if you use foundation, and, better, wire; at least with the Weed process of foundation there will be nice straight comb, and you will have no difficulty in drawing out a comb to begin with. With self-spacing frames they need no fastening. When frames are not self-spacing, instead of driving a nail into each end of the top-bar I would use a thin piece of wood. A separator cut into four pieces will do. Lay this across the ends of the frames and drive a small tack through this into the bar and they will not only keep from moving sidewise, but the piece across will prevent the frame from swinging at the bottom.

However, all this is unnecessary with self-spacing frames. I want no beveled hives to move bees in; wood shrinks and swells; and, however much men may demand absolute accuracy, I have found that those who demand this, when set at the saw-

table they can not themselves produce it. (If you have any customer who demands this you can easily cure him by setting him at your tables, and letting him get out his own stuff, on condition that, if every piece is the same in two months' time, he shall have the use of the machinery and power for nothing; if not so, he shall pay double the price of the goods.) Reasonable accuracy, of course, one expects; but beveled hives are pretty sure to spring a leak, especially if they have been in use for a while. But hives with straight joints can be made by any experienced supply-dealer to have no leak. One clamp should be put at each side of the hive and one at the back. The upper story can be fastened on the same way, also the cover. I advise three for each to make interchangeable; otherwise I would have four. If the top cloth is used, free from holes, four pieces of separator with tacks will answer to keep the cloth down. The hives so arranged can be ready for loading any time within, probably, an hour.

The conveyance should be in good shape, greased, tires not liable to come off, as a hired team did once with me when it got on the hot sand. I would have nothing to do with hay-racks and hay if a platform were available, and it would be if I intended to keep up the business. An ordinary wagon will do to make a platform, if you can not rent. Make it to hold three or four rows with an inch strip between. Make at the side of the wagon an inch strip. The two outer rows can project a third over the side; the inch strip will prevent the hives from working out. Any pitch will always throw it toward the wagon; otherwise I would have it perfectly flat, and a rope bound about the load to keep the hives in place. With the porticos on inner rows, place there the weaker swarms; make the portico one inch or even more shallower, and wire cloth on top of portico; this can be done by putting a half-inch strip of wood next to the hive or portico, and bringing the wire in one piece over the front and top, and nailing the wire to this piece. This change in portico is necessary, as the inner hive will be within an inch of the hive in front. A strip one inch square or $\frac{1}{8}$ should be nailed on the platform. Now the two center rows stand back to back down the center of the wagon, and a strip between them and the outside rows, which are held in place as above described. If the wagon platform is not wide enough, three rows must do.

Use a coil spring between the wagon and platform. This can be adjusted to any lumber-wagon, and answers well. Do not use wild horses, but those that will obey promptly. For tools, have a lantern, hammer, nails of different sizes, some separators, and strips of wood, in case of accident; a watering-can, smoker and fuel. Run your wagon by hand close to the bees about the time the bees quit flying; if any are left in the apiary, a few bees shut out will not matter. Smoke gently to get the bees

hanging out in; then smoke again to put the porticos in place. If no one makes a botch it is surprising how quickly this can be done. Next loading. Set them on the ground on each side of the wagon; next to the wagon a hive with an inside portico; out from that, an outside. If any bees have accumulated, brush them off as you carry them to the wagon. What next? Load? No, not a bit of it. Would you load cattle or stock for a long journey without giving water? Water the bees. Give them plenty. If tipped up a little at the front, so water will run in, all the better; and for this, in moving bees a screen on the center row is an advantage added to the portico. You have a better chance to water on the journey. But water well; and unless a very hot night and a long journey, say over 15 miles, this will answer. This is a great point in moving bees. Do not forget it. Then load and off. I like to be an hour on the road before it is quite dark. Go rather slowly at first, and get off and go about to see if the load is riding right—if there are any leaks, etc.—say after half a mile, and again after another mile. Pick beforehand your road. Know just where you are going. In the middle of the night you are not likely to meet many people; and if you go to their door they often do not feel much inclined to direct you. Can you trot? A good fast-walking team I prefer; but if you are quite sure of your road you can trot. Clay roads are a little rough; but if not much rutty I prefer them to sand. The weight of the load will break down the clay. If you are going 15 or more miles, give them water again. After 8 or 10 miles, go over them again and sprinkle the porticos.

There should be on each load not only a bee-keeper, but one awake, alive, and active; and if more than one load, make them keep within close hauling distance. Instruct every teamster to unhook the moment there is the slightest accident, and run with his horses. I once moved something like 100 colonies on two wagons. The wagons and teams were hired. One horse balked, and they had to return some five miles to get another. A teamster broke open one hive, after getting the most definite and specific instructions not to sit on the hive. We had some 26 miles to go, and with one thing and another we were much longer on the road than expected. The horses had to feed, the men thought they had to; and when we got on the hot sand, one tire began coming off; and while we watched that wheel another came off entirely, which resulted in another great delay. The man with me came on the wagon on which I was; once or twice I told him he should be on his own, but gave him no absolute orders. It was high noon when we went through a village. Behind us we heard a crash. The rear teamster had fallen asleep; the horses turned a corner too short, and went into a telegraph-post, stripping some porticos from hives. The teamster jumped off to hold his horses. I called out, "Unhook!" which he

did. What the result would have been had he not, I dread to think. But it was 6 o'clock that night before the bees were unloaded. Some had three comb-honey supers on. It was between clover and basswood. They were confined to the hives all night, and through the burning heat of that day; yet all came through in splendid condition—a severe test for the porticos.

In unloading, put all in place, then at once open the hives, having the smoker ready to use. On the way, keep the lantern and smoker going, but turn down the lantern. It must be a dark night indeed when there is not some light to see.

A bee-keeper for fall pasture—indeed, any—must study the conditions, the moisture and flowers, and decide whether it pays. I think I can tell pretty well the chances beforehand, but yet not *know*. Since Adam fell, God has decreed, "In the sweat of thy face shalt thou eat bread." Romans 1:20 tells us, "For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made." I believe to-day the healthiest and happiest man is the one who, in the fear of God, seeking to live for him, does physical labor; and to produce any thing on this earth, any crop, there is needed constant battle with evil. Thorns, thistles, weeds, and adverse weather come in, and have to be battled with and overcome, to remind us that, if we would produce good fruit, we must root out, weed out, and keep down evil; constant watchfulness and vigilance are required. We know that the word of God is the good seed Christ implanted in our hearts. How many of us have begun the struggle—have Christ implanted there? How many are making no struggle, but letting the enemy have full swing? My heart often yearns over men I know in the bee-keeping profession who have not Christ, no new birth in them, who are harboring their enemy for time and eternity, in their hearts. What awful folly! what worse than physical suicide!

Brantford, Canada.

THE BEE IN LAW.

Animus Revertendi; Identity; Transportation; Larceny.—Article 3.

BY R. D. FISHER.

Bees are *feræ naturæ*, i. e., wild by nature, and classed with such wild animals as have what is called the *animus revertendi*, or a usual habit of returning whence they have escaped. During this temporary absence they remain the property of the original owner (2 Kent, Com. 348). The law, as Blackstone says, "extends this possession further than the mere manual occupation; for my tame hawk that is pursuing his quarry in my presence, though he is at liberty to go where he pleases, is nevertheless my property; for he hath *animum revertendi*. So are my pigeons, and bees that

are flying at a distance from their home, and likewise the deer that is chased out of my park or forest, and is instantly pursued by the keeper or forester; all which remain still in my possession, and I still preserve my qualified property in them. But if they stray without my knowledge, and do not return in the usual manner, it is then lawful for any stranger to take them" (2 Blackstone, Com. 392).

So, in the civil law, Gaius says: "In respect of such animals as are in the habit of going and returning, as pigeons and bees and deer, which are accustomed to go into the woods and fields and come again, we have this traditional rule: That if they cease to have the intention of returning they also cease to be ours, and become the property of the first taker; now they appear to cease to have the *animus revertendi* when they have discontinued their habit of returning. This theory may be compared to the rights of property in animals at common law only when *animus revertendi* is induced by artificial means, such as taming them or offering them food and shelter, but not to immigrating animals which return from natural causes. The highest authority is that the only ownership in them is *ratione sotii*. In consideration of the fact that the character of the forest allows every freeman to be entitled to the honey found within his own woods, affords great countenance to the doctrine that a qualified property may be had in bees in consideration of the property of the soil whereon they are found."

IDENTITY.

One of the chief difficulties in reclaiming bees is in the almost impossible identification thereof. Many curious cases of doubtful or disputed identity might be cited to illustrate the singular fortuous resemblance between bees, not only in their general appearance, but also in the strain or accidental mark. Positive recognition of peculiar habits and workings of bees is too difficult to suffice to prove their identity. Courts judicially recognize photography as a proper means of identification of the thing in dispute; but there is no case on record, so far as we have been able to discover, where a claimant has been able to reclaim his bees by means of photography. Neither can bees be identified or proven by the concurrence of their several characteristics. This proof is too remote, and the question of identity is for the jury. The court can not presume identity of bees.

TRANSPORTATION OF BEES; CONTRACT OF CARRIAGE.

The exact character of the contract for the carriage of animals has been the subject of much judicial discussion. The prevailing opinion, however, is that common carriers are also insurers against all losses except those resulting from the acts of God or the public enemy, or from the peculiar nature of the property carried. Though it may be optional with railway companies whether they will accept the full responsi-

bility of transporting bees, yet if they do so without any express restriction they are liable as common carriers. But they may for a less hire agree simply to transport bees, furnish cars, etc.; and if the shipper and owner of the bees agrees to the lower rate, he can not hold them as common carriers. For a given reward they proffer to become his carrier; for a less reward they proffer to furnish the necessary means that the owner of the bees may be his own carrier (*Kimbal vs. Ry. Co.*, 26 Vt., 247). In the case of *Bixly v. Deemar*, 54 Fed. R., 718, the United States court held that, when a vessel struck a hidden obstruction and filled with water, and a cabin containing bees floated to the shore, but no effort was made by the master to use care in saving them, the steamboat line was held liable for damages to them, though the vessel was insured and was abandoned to the underwriters as a total loss.

BEES THE SUBJECT OF LARCENY.

Bees in the possession of the owner are the subjects of larceny, says the Indiana Supreme Court in *State v. Murphy*, 8 Blackf., 498. Further, the court holds that, when bees are in the possession of any person, they are the subject of larceny. Much depends upon what constitutes possession. Generally it is regarded that the owner of the soil upon which bees may be found is the possessor thereof. While the rights to animals *feræ naturæ*, as between the owner of the soil and others, have been fairly settled by a considerable series of cases, the relative rights of parties, both of whom acknowledge the superior rights of the owner of the soil, seem never to have been precisely described. But in a recent Rhode Island case (*Rexroth v. Coon*, 15 R. I., 35), the plaintiff, without permission, placed a hive of bees upon the land of a third person. The defendant, also a trespasser, removed the bees and honey which had collected in the hive. The court found that there was no cause of action, holding that neither plaintiff nor defendant had any title or right to possession to the bees or to the honey. It needs scarcely follow that a trespasser can not maintain, on the basis of mere possession, an action against a later trespasser. There may be some possible doubt in a case of this kind where a person has reduced the bees to possession by collecting the bees in a hive, and left them temporarily on the land of another; and if so it would seem to give him actual physical possession sufficient for an action against one who removed them. But about the honey which the bees had collected while on the soil of a third person, there would be less doubt; but, strange to say, in no case which we have examined does the question seem to have been discussed, much less decided, as to how far the law of animals and bees *feræ naturæ* applies to their produce, such as eggs or honey. The reason on which the law about the animals is founded is wholly inapplicable to the honey; but the Rhode Island case tacitly

assumes that no distinction is to be drawn. Hence, as a dictum, it would appear that the honey, at least, belonged to the owner of the soil.

Bees are likened unto wild animals belonging to no one so long as they are in their wild state, and property in them is acquired by occupancy, hiving, and reclaiming only, and are not the subject of larceny unless they are in the owners' custody, as in a hive, bee-house, or otherwise confined and within the control of the possessor or owner.

CONFINEMENT OF LAYING QUEENS.

Queens Caged when Laying to their Fullest Capacity; does the Practice Result in Injury?

BY ARTHUR C. MILLER.

The article by Mr. F. Greiner, August 15th, on the confining of laying queens in small cages, is well worth a second reading; and his question, "Do queen-breeders practice any such thing?" is most pertinent. That injury is caused to such queens by so confining them is, I think, well established. In the *Amer. Bee-Keeper* for April, 1901, I wrote on the cause of injury to queens in shipment by mail, i. e., starvation; and it is also the cause of injury to caged laying queens, even though the bees have access to them. A laying queen is receiving an abundance of highly nutritious food, and at the same time is developing a large quantity of eggs. Suddenly shut off this food supply, and what happens? The formation of eggs does not and can not immediately cease, and the queen is soon in an exhausted condition. Just how long the development of the eggs continues I am unable to state positively; but from the fact that prolonged confinement increases the extent of the injury, I imagine that it continues for several days, though, of course, in a constantly decreasing degree. We have very little accurate data regarding this subject; and until we accumulate more we must necessarily do some guessing and more experimenting. We do know that the sudden confinement of a queen when in the full exercise of her natural functions almost always works serious injury, such queens seldom doing as good work as before, and generally dying early. We also know that a queen laying slowly, as in a small nucleus, can be caged with little or no apparent injury. Also, I think I know that the degree of harm from such restraint is modified by the kind of bees confined with the queen. If she has as an escort, young feeding or "nurse" bees, then she will have suitable nourishment for a time, perhaps until the development of the eggs has nearly stopped. But if she has few or no such bees, then she perforce starves; for while honey will keep up the animal heat it will do very little toward restoring wasted tissue. A queen confined in a cage of wire cloth or perforated zinc, even though all the

bees of a full colony have access to her, does not get fed as she would if at large. I base this statement on general observation, and the analogy that confined drones, even though they have available plenty of honey, and are accessible to the bees, soon die.

A careful microscopical and chemical examination of the stomach of queens that had been caged as stated would prove just what kind and quantity of food they do receive under such conditions. Until we know exactly how to cage laying queens safely for an indefinite period we had better avoid it altogether. And when we are compelled to cage them for shipment let us first diminish their laying by putting them in a small nucleus for perhaps a week before close confinement, and then be sure to give them a retinue of "nurse" bees. Mr. Alley's system of a little nucleus colony for the mating and retention of each queen is most excellent, and I believe it is largely accountable for the excellent results in shipping with which that veteran meets.

Properly and closely associated with this subject are Mr. Greiner's remarks on the working qualities of different colonies. A queen whose vitality has been impaired can not be expected to produce bees of full vigor; and just how much such weakened constitutions may be responsible for poor work on the part of a colony is a question worth investigating. Mr. McIntyre has given what seems to be the best plan for getting at the true value of any strain of bees; and that is, stocking a row of colonies in an apiary with queens all from one mother (and presumably all of the same hatching), and then comparing the *average* of the product of those colonies with the average of a similar number of other colonies in the same yard during the same time. Though comparisons may be odious they are certainly very helpful when we would measure the value of strains of bees.

Providence, R. I., Aug. 20.

[You may be right; but is it not putting it a little strong when you say, "We do know that the sudden confinement of a queen when in the full exercise of her natural functions almost always works serious injury. . . We also know that a queen laying slowly, as in a small nucleus, can be caged with but little or no apparent injury"? You italicise the word *know* as if the facts were established. Now, is that true? There has been a sort of surmise entertained by many good bee-keepers that both of these propositions might be true; but has either one of them been clearly and decidedly demonstrated? Understand, I do not deny either proposition; but I raise the question whether we have so far reported facts sufficient to prove, beyond a peradventure, both statements. In partial support of one statement I will say that we have sent out sometimes, from our apiary, queens that were in full laying, and yet which on arrival at destination proved to be very unsatisfactory, laid a few eggs, and disappeared. At other times we have taken

queens from their hives in the height of the season, put them up in mailing-cages, and, later on, had most flattering reports from them. We send out a good many thousand queens in a season; and, unless I am very much mistaken, the majority of such queens (even when doing full duty) have deported themselves very creditably on arrival at their new home. If there is any queen-breeder, aside from Mr. Alley, who first cages in a small nucleus before sending out queens, I should like to have him hold up his hand. Now, understand, friend Miller, this is not offered as a challenge, but because I do honestly seek the truth. If it is demonstrated clearly that a queen removed from the hive when laying to her fullest capacity, and caged long enough to make a journey through the mails, is injured, then the sooner we prove the fact, the better it will be for the breeder as well as for his customer.—ED.]

RAMBLE 192.

Some "Pathetic" Sketches from Real Life.

BY RAMBLER.

We have in Los Angeles one of the most accomplished flower artists in America, and a Frenchman is Mr. Longpree; and wherever you see a Longpree painting of a flower, of whatever hue or shape, it is so true to nature that you can almost smell the aroma. Mr. Longpree turns an honest penny now and then by placing his many flower pieces on exhibition, and it is a real treat to look them over. One day I too rambled into the hall, and there was a bewilderment of subjects. I was admiring one very pretty little picture of white daisies and red clover mingled promiscuously together, with just the outline of a rail fence away in the background. Two young men came along, presumably artists, and they admired the picture. The young man with his hair parted in the middle looked lovingly at the picture, and, with his hand upon his heart, exclaimed, "So pathetic!"

I meandered, and, absent-mindedly, looked at the many pictures; but they all seemed to blend into daisies and clover, and "so pathetic" I finally found myself again before the daisies and clover—just common white daisies and red clover, and for the life of me I could see nothing pathetic about it. A stout, motherly-looking woman came along, and in my anxiety to get on the artistic side of that picture, said I, "Ma'am, can you tell me where there is any thing pathetic in that picture?"

"Why," said she, with her head critically canted to one side, "I wouldn't call it exactly pathetic; I would term it pastoral."

"That's it, ma'am; that's it," said I, with enthusiasm; "that's just my idea of it; they do look so pastoral they remind me of our old cow pasture on the west side of the stony hill in York State, where briars, burdocks, daisies, and clover mingled to-

gether. Why, it almost makes me cry to think of it."

"H-u-m-m," said she, musingly; "and what is your idea of pathetic?"

"Pathetic? Why, ma'am, we had two roosters when I lived on the farm in York State—one a big clumsy lubber, and the other just a little runt. Well, he would everlastingly wallop the big rooster. One day he knocked all of his tail feathers out. You ought to have been there to see that big rooster sneak off into the bushes. Pathetic? Well, I should say so; and that's just my idea of the term."

I know I had the best of the argument, for the lady turned right away and seemed to have urgent business at the other end of the hall. Now, I may not have reported the exact words of our conversation; but any way, it conveys my idea of the pathetic.

Then we have another artist in Los Angeles, Mr. J. W. Ferree. Now, I am not sure as to Mr. Ferree's nationality: but it sounds as much like French as Longpree; any way, he is an artist; and while Mr. Longpree's specialty is flowers and landscapes, Mr. Ferree's specialty is housescapes. His housescapes are to be seen and admired in all portions of the city. His reputation is so great in this line that well-to-do people in adjoining towns have employed him to paint housescapes for them.



"HOW PATHETIC," RAMBLER!

Now, any one would naturally think that being a popular housescape artist would be 'aurels enough for one man; but that is not the case with Mr. Ferree. He is one of us. He is a bee-keeper; and, still better, he is foul-brood inspector for Los Angeles County. The board of supervisors elected him over several others who hankered for the office, attesting to his popularity in the community, and a genial companion he is, as the following episode will prove.

Mr. Ferree and I were riding along harmoniously one day; and as he removed his hat to a passing lady I artistically remarked, "So pathetic!"

"Why, Rambler, what do you observe that is pathetic?"

"Bro. Ferree, it is the top of your head—so bald—so pathetic."

"Say, Rambler, did you ever look pathetic?"

"Not as I knows on," said I.

"Well, we'll see about that," said he.

Mr. Ferree was driving his old gray mare, and leading another pie-bald critter behind the wagon. As we turned into Vernon Avenue in the southern suburbs of Los Angeles, with Messrs. Brodbeck and Shaffner following us in another rig, he stopped the procession, and remarked that he had always driven the critter on the off side, and now wished to give him a few lessons on the near side, and proceeded to form a connection from said critter's head to the near-side hame of the old gray, with a tow string, and gave me the end of the long halter rope to manage.

The program was all very simple. We started; and that critter, looking the situation in the face, and not liking it, turned right around and looked us in the face and winked his eyes, as much as to say, "There, now, who is on the off side?" The whip was applied to old gray. The critter backed a few steps, got mad, reared, bolted past the buggy, and nearly jerked my arms off as I held to the rope and the seat, and, with hat sailing to the ground, I frantically shouted "Whoa! whoa!"

Ferree laughed and shouted, "So pathetic! so pathetic!"

He was getting his revenge on me in true artistic style.

Well, the procession was stopped again, the critter tied again with the same tow string; the old gray was started again; but this time the critter bolted ahead; and as I hung balanced on the dash-board Ferree shouted again, "So pathetic! so pathetic!"

We stopped again. Bro. Brodbeck was just suggesting that I ride the critter, when his pet dog's tail was stepped on, and, what a howl! "So pathetic!" said Ferree; "so pathetic!" said I.

"What a pathetic howl!" said Ferree.

"Nothing pathetic about the howl," said I; "but that painful frown on Brodbeck's brow—so pathetic—see, Ferree?"

"Yes," said Ferree, "I see."

You would naturally infer from the foregoing, which was only a fragment of the occurrence, that Mr. Ferree is a jolly good fellow, and that's a fact. He is a genial bachelor, a member of Dr. Bresee's church; will go a long way to serve a friend; generous every day in the week; polite and descending to the ladies; always shows an even temper, and the mantle of foul-brood inspector could not have fallen upon more worthy shoulders.

He reports his work in Los Angeles Co. as follows: Has inspected 148 apiaries; 8010 colonies; 284 foul-brood colonies. Prof. Cook commends Mr. Ferree's method of handling the disease. Where there is a chance for saving the colony it is done; otherwise it is submitted to the flames. Mr. Ferree estimates 300 bee-keepers and 20,000

colonies of bees. It will be observed that Los Angeles Co. is no small corner of the State, and the inspector must necessarily be a hustler to get over the ground.

Mr. Ferree has the disease well in hand, and it is hoped that it will soon be a past trouble so far as this portion of the State is concerned.



J. W. FERREE.

In order that you may get acquainted with our foul-brood inspector I herewith introduce him to you. Bro. Ferree, allow me to present you to the fraternity in this and in foreign lands.

Don't look on life through a smoky glass;
The world is much as you take it;
'Twill yill you back a gleam of light
Or a glow of warmth if you make it.
However fortune may seem to frown,
However may scorn the scorners,
Still face your fate with a fearless eye
And a mouth curved up at the corners.

DOUBLE-DECKER COLONIES.

The Use of Foundation or Empty Combs; how the Double-deckers Cut Down Swarming by Half, and Double the Amount of Honey.

BY G. B. HOWE.

Mr. Editor:—I will try to tell you my experience with large v. small hives. I have been experimenting for the last ten years, and think I have found what I want. I

think a ten-frame L. hive too large, and an eight-frame too small; but 16 frames are just right. By this I mean a double-decker. I have tried them the poorest season I ever saw, and they were ahead of any small hive I ever used; and when you get a swarm from one of them, hive it in an eight-frame hive with full combs for the queen to lay in and to store pollen in, and you have a colony for comb honey. One fault with starters in the brood-nest is that they will put pollen in the sections; and another thing is, they build so much drone comb. My advice is to use drawn combs or full sheets of foundation. I use full sheets of foundation in the boxes, and I find that it pays to use it. I have tried both ways, and know that I have lost money by using starters, also by using starters in the brood-frames. Why not save the honey that your bees make drone combs of, and buy your foundation? I used to have the same old trouble with bees that would not work in the boxes; but I find that, if you have the right kind of bees, you will have less trouble in that respect. I would change the queen quickly if the bees had to be coaxed into the supers. I put the extra body under the colony early so they do not get the swarming fever. I do not have half the swarms I did formerly, but produce twice as much honey per colony. Some of these double colonies are so full of bees I put them in the cellar that way. I had one of these double hives that made 96 boxes of honey, then swarmed and made 72 boxes more, and have honey enough to winter in good shape. I do not have any trouble with bees not storing honey over sealed honey. If you do, get a red-clover queen. The queens I have from The A. I. Root Co. and L. H. Robey will and do pile in the honey over sealed honey, and they do not swarm when they get in good shape to make honey either. Of course, the locality has something to do with it, but not so much as some think. We have had a good year here, and my bees are in fine condition for winter.

Black River, N. Y., Sept. 3.

[As our readers will remember, I have long advocated the use of two-story eight-frame colonies under some conditions; and at our basswood yard I have had an experience a good deal like that related by Mr. Howe; but at the time of telling that experience I received some protests; but since that time I have heard from quite a number who say that the double-story eight-frame colonies are all right. I have a private letter from G. W. Brodeck, who, it seems, has been using the same plan, only his brood-frames are 7 inches instead of 9'. He says he gets excellent results, and those results are so marked that some of his bee-keeping friends expect to put the plan in operation next year. I have written to Mr. Brodeck, asking him to give us fuller particulars, so we will let him tell the rest of the story for himself. But lest I may be misunderstood I wish to say I do not advocate

double-deckers for every one and for all localities. After having traveled over the country as I have, and studied the various conditions of climate, and styles and condition of hives, my conclusion is that it is both foolish and silly to advocate any particular fad or plan as being practicable alike to *every* section of country; but I do feel that the two-story idea has not been exploited as much as it ought to be in some localities. If it works at all it will produce some great results, both in the reduction of swarming and in the harvesting of big crops.—ED.]

PUTTING UP COMB HONEY IN AN ATTRACTIVE SHAPE.

A very Neat and Pretty Selling-case.

BY BENJAMIN FRANKLIN.

Mr. Root.—I send you a photo of a style of box I call my border package. Years ago I had a nice crop of honey from the silver maple, the first in over 30 years. Last year I did not get much of any kind. This year I am getting a fine crop from the silver maple. The raspberry and silver maple come in bloom about the same time, but the bees work on the silver maple, so I don't get any raspberry honey but what is flavored with the silver maple. These mountains are covered with it. Two years ago I could not supply the demand for this style of package, for it was just the thing to carry back to the city. What I claim as original of this box is the handle. I tried wire, tape, and other things; but I came across some picture-frame wire cord that just filled the bill. I get different colors and put up nice Danz. plain sections $4 \times 5 \times 1\frac{1}{8}$, that will weigh nearly 1 lb. I can sell them like hot cakes. All I have to do is to raise a box, as you can see in the picture. I have some pink paper around the box to lift them out. I have also paper in the bottom with strips to raise them up from the bottom, like your shipping-case. The holes in the ends are glassed. Where we raised corn and potatoes it was washed away in the freshet last spring. The water came into the bee-yard, and we had to raise the bees up out of the water; but there is not so much loss but that there is some gain. The water filled in above, and washed out below, so it left a fall of 3 ft. or over, so I put in a water-wheel and turn out the molding and hole by waterpower. The wheel is 100 ft. or over from the bee-house. I run the power to the lathe with a wire clothes-line.

It is no trouble to sell nice honey

put up in these boxes. You can see I look rough and ready to sell honey, and tell them all about it. I sold these five packages at one place, and five more to the next house, all New Yorkers.

Griffin Corners, N. Y., July 31.

[Mr. Benjamin Franklin is a bee-keeper whom I met, or, rather, did *not* meet, on my first bicycle-tour through New York in 1890. I had just bought one of the latest safety bicycles, then just out, and was making a tour on the wheel—quite a novelty then—through the hill country of the Empire State. While cycling on one of those days I heard how one bicyclist had been robbed along the way, and I had been warned to look out in going over a certain route, and I did. Along one of the lonely roads a man hailed me to stop; but remembering what I had heard I put on all the steam I had. The supposed robber chased after me; but I turned a deaf ear, and peddled with all my might to gain the top of



the hill ahead of me. Having arrived at the top of it, nearly tired out, I placed my feet on the coasters and let the wheel go as fast as it would down one of those York State hills. Up to that time I had never ridden so fast in all my life. I nearly ran into various objects down the hill. Suffice it to say, I landed safely, feeling sure that I had left my pursuer miles behind, and I had. A week or so afterward, when I arrived home, I received a letter from Mr. Franklin, stating that he had seen me, mentioning the very road where he had hailed me, and saying that, instead of stopping, and being neighborly, I just ran away from him. He had read in GLEANINGS of my proposed tour; and when he saw a chap go along on a bicycle, that tallied exactly with a description of me, he concluded at once who I was.

So much for an introduction. I have long since made my apology to Mr. Franklin, and I now wish to introduce him to our readers as a bee-keeper whom I have kept track of more or less ever since. He is up to date, because he uses the plain tall section. His package is neat and pretty, and, I should judge, inexpensive. No wonder it "sells like hot cakes."—ED.]



UNITING BEES FOR WINTERING.

"Good evening, Doolittle. As the evenings are getting quite long now I came over to have a little talk with you about uniting bees, so as not to bother you during the day, as I know you are very busy getting your honey ready for market."

"For what reason do you wish to unite your bees, neighbor Smith?"

"I have several weak colonies and young after-swarms which I thought would, by placing two or more of them together, make a less number strong enough for winter; and I believe that such strong colonies can stand the winter, while the weak ones, if left to themselves, would most likely perish. Am I right in this matter?"

"I think you are; and if more of our bee-keepers so understood things we should hear of less loss of colonies in the spring than we do now. The novice is quite apt to think that, the greater the number of colonies he goes into winter with, the greater number he will be apt to have the next May; but a careful looking into things shows that such reasoning is, in nearly every case, fallacious. Two or more small colonies placed in one hive, with the right amount of stores, stand quite a good chance of coming out in the spring one good working colony; while, if left separate, the chances are that empty hives and combs will be all that will remain of the two or three the next May."

"That is my mind exactly. But you have not told me how to unite my bees."

"Well, I will tell you of a plan I have used successfully for a score or more of years. The first thing to do is to place an empty hive where you wish a colony to stand; and if you can allow that to be where the stronger of the weak colonies is now standing, so much the better, as in this case the bees from this one will not have any desire to go to any other place, as this is where they have marked their old home."

"But how can I set an empty hive there when the stand is already occupied?"

"If you do this work as you should, on some day when the bees are not flying, and yet when it is not cold enough to chill bees generally, say on some cloudy day, or near sundown, when the mercury stands at from 50° to 55°, you will have no trouble in setting this stronger colony to one side of its stand, and taking your time in arranging the empty hive thereon."

"Yes, I see now. But go on."

"Having the empty hive arranged, go to the several hives having the colonies which are to be united, to form one colony, and blow quite a volume of smoke in at the entrance of the hive, at the same time pounding with the doubled-up hand, or with a stick, on top of the hive."

"What do you pound on the hive for?"

"This pounding on the hive causes the bees to fill themselves with honey, upon which filling depends the successful uniting of bees."

"How long should I pound?"

"I pound on them for about a minute; sometimes two, if it has been cool for some time before, so the bees are quite compactly clustered, as in this case it takes them some time to cluster and fill themselves."

"Do you keep on smoking all the time you are pounding the hive?"

"I smoke only enough to keep the bees from coming out after the first few voluminous puffs. As soon as you are through with the last one, take a wheelbarrow and wheel the hives to where you wish your united colony to stand, which wheeling helps, by its jarring, to augment the fear of the bees, thus causing them more effectually to fill themselves with honey. After thus wheeling them together, do not delay in opening the hives, else the bees may disgorge their load of honey back into the cells again."

"Would not an assistant be good at this time?"

"One would do no harm; but I generally do this work alone. Having all near together by the hive they are to go in, open the hives, and take a frame of comb and bees from one hive and place in the empty one; then take a frame from the next hive, placing it beside the first, and so keep on alternating the frames from the different hives till the empty hive is filled. In doing this, select such combs as you desire, either for brood, honey, all worker comb, etc., thus putting the united colony on the best combs. Having the hive filled with comb,

close it, when you will next take a frame from the first hive opened, and shake the bees off from it down in front of the entrance, holding close down so the bees are in or as near the entrance when leaving the combs as possible."

"Why this close holding and shaking?"

"So the bees will take wing as little as possible, and so that none need fall so far from the hive but that they can readily run in with the majority. Having them off the first frame, next shake the bees off from a frame to the next hive, and so on, alternating in the shaking the same as in filling the hive, thus mixing the bees from the several hives all up."

"Why do you wish them mixed up?"

"The mixing of the bees takes the disposition to fight and kill one another all out of them when filled with honey as above; for when each bee touches another it is a stranger, so that the individuality of each colony is lost, and the combined two, three, or four colonies unite within two or three hours to make one individual colony again, which will protect itself from all intruders, the same as the separate colonies did before."

"Is that all there is of it?"

"Not quite. As soon as the bees are all shaken off their combs, gently blow a little smoke on the outside bees to make them all enter the hive, should any be slow in doing so; and as soon as all are in the hive, place a board about half as wide as the hive against it, standing the bottom out a piece from the entrance so it stands slanting up over it."

"What do you do that for?"

"This is done so that the next time the bees fly they will bump against it, as it were, this causing them to know that it is a new location they occupy, when they will mark the place the same as a new swarm does, after which they will adhere to it instead of going back to the old location they used to occupy before uniting. And to help in this matter further, it is always best to remove every thing from the old stands so that nothing home-like remains to entice them back."

"What about the queens? Do you put them all together?"

"If there is a choice of queens in any of the colonies to be united, hunt out and kill or dispose of the poorer ones, so that the best may be preserved. This hunting-out of the queens is better done some day before the uniting, for in the smoking and pounding process the queens will not be where they are readily found when uniting. If there is no choice in queens, and the extra queens are of no value, the bees will attend to the matter, killing all but one of them."

[This is good sound orthodox teaching, according to our practice in our apiaries, especially that part recommending the *mixing* of the bees to prevent their returning to their old stand.—ED.]



WINTERING IN CELLAR WITH AN UPPER ENTRANCE.

"Good morning, Mr. Carter."

"Good morning, Mr. Patterson."

Mr. P.—I came in to inquire about my bees. What makes them crawl all over the cellar-bottom, and die?

Mr. C.—Well, as nearly as I have made up my mind it is because they have been shut up so long, and have got so full that they must get outside of the hive a short time; and, as they go one in a place, they get lost, and die.

Mr. P.—Why do you think they get lost?

Mr. C.—In 1898 you know we had a very long winter.

Mr. P.—Yes, I remember that well, for my bees all died that winter.

Mr. C.—Well, I lost half of my bees that winter, and the other half came through in fine order.

Mr. P.—What was the difference in their wintering?

Mr. C.—I had a $\frac{3}{4}$ -inch hole in the front of half of my hives, and the other half did not have any hole in, and the colonies that had holes in their hives all lived; and in the hives that did not have a hole in the front, the bees all died.

Mr. P.—Did you let the hives stand on the bottom-boards?

Mr. C.—No; I raised them all up and put a block one inch thick under all of the hives I had.

Mr. P.—What did that hole have to do with it?

Mr. C.—The bees came out of those holes and daubed the fronts of the hives nearly all over, and they would crawl back into the hive again.

Mr. P.—About how many bees were there out at a time around those holes?

Mr. C.—There would be, near spring, a bunch from the size of a dollar to the size of your hand, and they would keep buzzing all the time, and they did not get lost and die, but they lived and went back into the hives. In the summer I keep those holes closed up, and in winter I keep them open.

Eagle Grove, Ia. C. K. CARTER.

[I can scarcely believe that the presence of a $\frac{3}{4}$ -inch hole a little way above the entrance would make all the difference between successful and unsuccessful wintering. There must have been something wrong in the food or cellar, to have caused the bees to soil up the fronts of their hives so with dysentery. It is a general practice in wintering, either to set the hives up on blocks above the bottom-board, or, better still, take the bottom-board off entirely, and place the hives in rows about 4 inches apart. The next row of hives is set on top of the lower row, over the spaces between the hives below.—ED.]



NATIONAL BEE-KEEPERS' ASSOCIATION.

OBJECT:—To promote and protect the interests of its members; to prevent the adulteration of honey.

OFFICERS:—E R. Root, President, Medina, O.; R. C. Aikin Vice-president, Loveland, Col.; Dr. A. B. Mason, Secretary, 3512 Monroe St., St. B., Toledo, O.; Eugene Secor, General Manager, Forest City, Iowa.

BOARD OF DIRECTORS:—Whitecomb, Friend, Neb.; W. H. Hutchinson, Salt Lake City; Mich. A. Root, Medina, O.; J. H. Abbott, St. Joseph, Mo.; P. H. Elwell, Starkville, N. Y.; E. R. Root, Medina, O.; T. G. Newman, San Francisco, Cal.; G. M. Doolittle, Borodino, N. Y.; W. F. Marks, Chippewa Falls, Wis.; J. M. Hambraugh, Escondido, Cal.; C. P. Dadant, Hamilton, Ill.; C. C. Miller, Marengo, Ill.

FEES:—Annual membership fee, \$1.00. Remittances may be sent here or to General Manager as above.

RAMBLER GOING TO CUBA.

YES, we have made arrangements with J. H. Martin, the Rambler, to go to the Pearl of the Antilles. He is going with camera, bicycle, and that characteristic umbrella and stovepipe hat. While he is making the trip on his own account, he is also going with the view of studying the conditions in Cuba, and writing them up in his inimitable way for GLEANINGS. His notes of travel are always interesting; and after having gone over some of the territory in California through which he had preceded me, I find that he tells the exact truth. We may, therefore, expect a very interesting and valuable series from his pen, and by this time I doubt not he is on the way. Mr. Murray, our artist, will prepare the illustrations as before.

A TRIP TO THE WEST INDIES.

THE bee-keeping industry in these islands has taken such a start in the past few years that GLEANINGS now has many subscribers there. To study the existing conditions, and learn more regarding the requirements of bee-keepers in those islands, Mr. A. L. Boyden, Secretary of The A. I. Root Co., will shortly make a trip to the British West Indies, British Guiana, Trinidad, returning via Jamaica and Cuba. As our friends in these places may wish to communicate with him we outline his trip as nearly as it can be determined at this writing.

Bridgetown, Barbados, Nov. 5.

Georgetown, British Guiana, Nov. 13.

Port of Spain, Trinidad, Nov. 16.

Kingston, Jamaica, Nov. 29.

Santiago, Cuba, Dec. 5.

Manzanillo, Cuba, Dec. 7.

Cienfuegos, Cuba, Dec. 9.

Havana, Cuba, Dec. 14.

These dates are only approximate, especially for Cuban points. Letters may be addressed to Mr. A. L. Boyden at any of the places; and if marked "General Delivery" they will reach him, without doubt. He expects to visit as many bee-keepers at each place as time will permit; therefore many of our subscribers will likely receive a call from him. To save time, as soon as

he reaches each port he will probably arrange a little trip to various points, and would, therefore, like to have parties writing him give explicit directions for reaching their homes or apiaries. No letters can reach Medina from any of these points before he starts, and should, therefore, be addressed to Bridgetown, Barbados, or other points named above.

HOME OF THE HONEY-BEES GROWING AGAIN.

OWING to the fact that the Home of the Honey-bees is being enlarged, and that we are "all torn up," it was not possible for me to continue my series of travels, finishing up my write-up of that bee-keepers' paradise, for this issue. As already hinted at, the Root establishment is being enlarged as well as improved in many ways; and while these changes are in progress it has taken the time of all of us, to a very great extent, to look after things.

Among the improvements is a new foundation-factory that is almost fire-proof. It is designed especially for making Weed process foundation. Removing this department from the basement of the main building gives us additional room to use for other purposes. The wood-working building is also being enlarged, and a new roof has been put on the boiler-house, giving us at the same time a drying-room. Besides the increased capacity of buildings, we are also putting in several thousand dollars' worth of new and perfected machinery. Among these is a new cylinder press to help out the regular GLEANINGS press that has been compelled to run almost night and day to keep up with the work.

BEET VERSUS CANE SUGAR IN SOME OF THE FRUIT-CANNERRIES OF CALIFORNIA.

I HAVE received a letter from Mr. Thomas Wm. Cowan (now sojourning in California), editor of the *British Bee Journal*, and who, through the columns of that paper, has recommended cane in preference to beet sugar for the feeding of bees. In a letter just received, he writes:

Dear Mr. Root:—I have just been staying at a fruit-cannery in the Santa Cruz Mountains, where they use nothing but guaranteed cane sugar for canning purposes, and their experience with beet sugar is very similar to ours in England. It may be that the humid climate may have something to do with it; but it is quite certain that beet sugar is bad, not only for bees but also for preserving fruits in England. I suppose in the laboratory it is possible to get perfectly pure cane sugar from beets so that, chemically, it would be identical with that obtained from sugar cane but in practice it is found that there are certain potash salts in sugar from beets which do not occur in those from sugar cane. Leather and beefsteak have chemically the same composition, but there is a difference between them.

Pacific Grove, Cal., Sept. 23.

It may be possible, as Mr. Cowan suggests, that the humid climate of England may have something to do with the matter. If it is not too much trouble I should like to have him give me the address of the cannery to which he refers—not that I in the least question his word, but because I should like to get a detailed statement from

them, explaining why their experience with beet sugar has not been satisfactory.

SNAPSHOTS FROM THE BUFFALO CONVENTION.

As I have already explained in our former issue, this was a very enjoyable and profitable meeting; and, unlike any previous convention, there were no essays—no papers of any kind. It was just simply live discussion, offhand, by plain practical men who came on purpose to give to and take from their fellow-craftsmen. The general subject matter had for its foundation the question-box, and the questions themselves had been carefully prepared by several prominent bee-keepers, all duplicates being stricken out. Then the members of the convention were invited to send in questions; and so, taking it all in all, we had plenty of live material from which to draw. As I was occupied with the duties of the chair, and as I was called out at two of the sessions on committee work, I was not in a position to take notes; but after the convention was all over I asked my brother Huber, now 18 years old, and who has all at once got the bee-fever, to give me some points from memory.

"Oh!" said he; "why didn't you tell me that before, so I might have taken notes?"

But I told him he might write down as much as he could remember of the important points brought out, and this he has done, notwithstanding he was pressed for time, as he had already entered on his college work for the year.

HUBER'S REPORT.

In discussing foul brood it was considered unnecessary to disinfect the hive-bodies. It was, however, shown later, that, if any honey should be spilled on a foul-broody hive, the disease would be almost sure to break out in the colony whose bees took this spilted honey; therefore it seemed that it was far safer to disinfect the bodies. A cheap and effective way was spoken of. Light some coal-oil-soaked rags which have been wound around a stick; place the body around the flame, and, by revolving it with the hands, every particle of wood can be thoroughly searched. But Inspector McEvoy, of Canada, insisted that when the hives were not daubed with honey it was not necessary to disinfect them.

"Carbon bisulphide," the new moth destroyer, was thought to be much better than sulphur for getting rid of bee-moths from old combs, hives, supers, etc. Instances were given where a strong and continued application of sulphur utterly failed to kill the big worms and the eggs. A subsequent treatment with bi-ulphide had killed every thing absolutely. It was shown that, inasmuch as the fumes of the drug are heavier than common air, the vessel containing the liquid shou'd be put *above* the combs, not *below*; that it was safer, owing to its explosive character, to put the combs to be treated in a large *tight* box or, better, a *tight* cupboard suitably constructed *outdoors*, and then use a sufficient quantity to do the work thoroughly. Some of those who had not obtained satisfactory results had, no doubt, put the bisulphide under the combs or had used too little of it.

A majority of bee-keepers agreed that honey was slightly darkened when taken from old black combs, as compared to that taken from new white combs from the same colony and in the same season.

On the question, "Are long tongued bees better honey-gatherers than bees of the ordinary length of tongue?" every speaker who had had experience seemed to feel that they were. It was suggested, though, that there was the danger of breeding for long tongues regardless of any other good qualities.

Most of the speakers favored full sheets of foundation in body and super, even for a new swarm.

A large number of remedies were given for cases of severe stinging. It was shown that, "to gin and bear it" would not do for some cases, especially children: as, a remedy that would cure one, may not answer for another; so a doctor was a good thing to have when serious. Among the remedies suggested was an outward application of cast oil, or kero-sene.

In-breeding was thought to be unsafe for a beginner; but Prof. Benton said that very good results could be obtained, and that it was perfectly safe to do so if care is taken.

There was some argument as to whether or not a queen is injured by confinement in the mails. Prof. Benton said no; others said yes. It ended up with, "That probably a queen will not have been injured by the confinement if she can get through alive."

Niver's plan for selling extracted honey was, to go from house to house, giving a sample, explaining how the bees make the honey, wax, etc., showing them a sample of foundation, and of comb. His customers furnished their own fruit-jars, pails, pans, etc., for the honey he invariably sold from his big can in a push-cart at the door. Some objected to this on the ground that a busy bee-keeper has no time to go from house to house pesting people on the habits of the bees. However that might be, Mr. Niver said, after he has once explained in this way he doesn't have to do so again, and has an easy time selling again at each trip to the same house. Some people, he added, would be astonished at the way supposedly intelligent people talk about bees. Show them some things; prove to them that comb honey can't be manufactured; prove to them that your extracted honey was not adulterated.

The editor of the *American Bee Journal* employed a stenographer at his own expense. There will be a verbatim report in the columns of our cotemporary; and those of our readers who would like to get the full discussion, involving all the good points, the flings and the digs, and the good-natured banter, are referred to the *American Bee Journal*, a most excellent weekly bee-paper, by the way, and one that GLEANINGS cheerfully recommends to all—that is, providing you can afford to take another bee-journal.

PRICE ON HONEY, AGAIN.

SINCE our editorial in October 1st GLEANINGS, having the heading, "An Unmitigated Shame," we have received two letters—one from R. A. Burnett & Co., of Chicago, one of the most reliable commission houses in the United States, and another from C. H. Clayton, of Lang, California, producers' agent for the Bee-keepers' Exchange of California. The first-named writes as follows:

Mr. Root:—We are a little bit surprised to get a circular letter from you of date yesterday, with another enclosure entitled "An Unmitigated Shame; more Monstrous Tales about the Prices on Honey." There is nothing nowadays better understood than that the newspaper reports, especially those made up from the clippings of other newspapers, are very unreliable; but judging from the information in our possession, the reports that are sent to you by those whom you are having investigate do not agree with those in our possession, which we have reason to believe are obtained from sources just as reliable. There have been some very large yields per colony in different parts of the country this season, while very close to those favored locations there have been some unusually light yields; but in nearly all locations there has been a surplus over and above that required for the use of the bees until another season. It is likely that Southern Wisconsin and Northern Illinois came as close to a failure as any one section, but up to this writing none of our correspondents claim that they will need to feed the bees, so that they may have sufficient winter stores.

The Eastern States have produced more honey than at any one time during the past five years. This cuts out the demand that has been coming from that section for the Western honey. There has been this sea-

son a greater tendency on the part of producers to hold their honey than is usually the case. We think this is in part caused by the fact that, during the honey-flow, it came in very rapidly; but as the flow was shorter than usual, this gave the impression to those having a surplus that they were about the only ones who had secured any thing in the way of surplus. As much of this was gathered in the early part of the clover season, and stopped suddenly, and in a good many places, they had no more honey until the asters begin to bloom. Inasmuch as this has been a favorable season for them, a great deal of late honey is being gathered and has been gathered, so that the early-gathered honey can be marketed, and is beginning to come forward more freely, now that winter stores are no longer a question.

The cry that has gone out of a large crop through the newspapers, to our minds, is a great advantage to the honey-producer, inasmuch as it gives the general public an idea that honey is plentiful, good, and cheap. This will make them feel inclined to buy it; thus the consumption of honey will be very largely increased, and it is the one thing that will sustain present prices, and make it possible for the crop of 1901 to be consumed before another one is ready.

Very truly yours,

R. A. BURNETT & CO.

Chicago, Ill., Sept. 26.

Our experience regarding offers on honey does not coincide with that of the Burnett Co. It is true there has been more honey produced in the East this year, but that is mainly extracted. On this point there is and has been no diversity of opinion. Indeed, I have already stated in the several reports that I have put forth in these columns that the crop of honey in the East was larger than for several years back, but only in extracted. The amount of comb, for some reason or other, seems to be very light. Last year we were able to get a fair supply, but this year we are not even able to supply our trade, although we can get all the extracted we need. In discussing the honey crop, don't let us get confused on these points.

Of course, it is understood by all of us that accounts in newspapers are not to be taken in any degree as authority; but the dear public, the consumers, are the ones that are misled. Some unscrupulous buyers who are not misled, seeing the opportunity to depress the market, make all the handle of it they can.

But I can not see the force of the statement that the report of a large crop of honey "is an advantage to the honey-producer," if it is untrue. It is the buyers, or middlemen, when these accounts are being floated, who depress the market. It is not the consumers, in my judgment. But the main thing that I was striking at was these exaggerated reports carrying the impression that 2000 or even 500 cars of honey had been produced in California. It is such statements that keep the extracted-honey market in a state of uncertainty.

The other letter to which I referred is one from C. H. Clayton, as above stated. Concerning the recent editorials in our columns, he says:

Mr. Root:—I note several editorials in recent issues of GLEANINGS regarding prices on California honey. I am a producer as well as a buyer and shipper of honey, and the present low prices are to be deplored. We are all wholesalers, compelled to be such from our location, and at the mercy of the Eastern buyer, who has other sources than ours from which to draw his stock. At no time this season has it been easy for us

to find buyers, even at present prices. When New York and Chicago will pay but 5 to 6 cents delivered, we can expect but 3½ to 4½ cents for honey here, the freight being about a cent per pound from our terminals.

I do not care to enter into an argument as to whether buyers have overestimated or whether producers have underestimated the crop. It is quite likely that a few of both buyers and producers are not on the best of terms with the truth. I fail to see, however, where either buyer or seller can possibly benefit by misrepresentation.

I have found, after years of experience, that the so-called "estimates" of producers and others scattered over the country are not to be relied upon. This year I base my knowledge of the amount of extracted honey produced upon the number of cases and cans made and sold, which I think is a safe criterion, since it is not likely producers are buying and storing them for use another year. So far as my experience in the sale of them went this season, and I sold several thousand, they bought only when and what they needed from time to time. About the time Ernest Root was on the coast I had a customer for thirty cases. He said he thought he would not need to exceed sixty at the most, and would buy in small lots as needed. Well, that man has 500 cases—30 tons—of honey. The others bought just as carefully, though they did not all have the phenomenal yield that this man had.

In your editorial of Sept. 15 you name Ventura as "one of the best if not the best," and credit the county with 245 tons. I think I could name four producers in that county whose aggregate production would reach almost that figure. There are more than 75 in the county who produce for market, and whose production is from one to twenty or more tons each. I have samples of honey in my office, from producers in Orange County (the smallest county geographically), representing about 250 tons yet unsold, and which I have personally examined (the tons as well as the samples).

I have sampled only part of the honey over there, and I know there has been considerable honey shipped from the county. The counties probably range in production this year in the following order: Los Angeles, Orange, Riverside, Ventura, Santa Barbara, San Diego, and San Bernardino. There have been about 100 carloads shipped to date from these counties, and no one will claim that more than one third of the crop has been shipped, if, indeed, there has been as much as one third.

It is quite true that the loss of bees during the three dry years was enormous, but that loss has been largely repaired, and the bees are differently distributed. Old producers who have dropped out have been replaced by new ones in new localities, as I have learned in my travels during the season.

I have not advised selling at present prices, neither have I advised holding, except in one instance, for higher prices. I have uniformly given what information I had that was reliable as to production, and left the matter to the judgment of the producer. Knowing what I positively do as to the amount produced, I hesitate to advise holding for higher prices, and with that same knowledge in mind I do not advise a wholesale rush to sell. The market will absorb the honey only about so fast, and a rush would be disastrous. The market is extremely tender. A half-dozen cars thrown at once into either New York or Chicago will apparently glut the market, and prices at once go off $\frac{1}{2}$ to $\frac{1}{4}$ cent, which represents the difference between a moderate profit and an absolute loss on the honey.

Lang, Cal., Sept. 28.

C. H. CLAYTON.

You say that "no time this season has it been easy for us to find buyers." It seems to me the reason is perfectly plain. The exaggerated reports that are and have been going forth from time to time, of the bigness of the California crop, has a decided tendency to unsettle the market and to make the buyers hold off. The Root Company, as well as a number of others whom we know, hardly dared to make an offering earlier in the season on a car of honey until we knew the facts. No one of us would risk the chance of a high offer with a possibility of that offer being far above the market later on, providing the crop should prove to be as large as has been stated.

The fact is, I don't blame the buyers for being conservative and trying to get it at $3\frac{1}{2}$ to $4\frac{1}{2}$ cents, so long as these monstrous lies keep on traveling. Until their falsity can be proven, they will make an offer that will be safe from *their* standpoint, somewhere about $3\frac{1}{2}$ cents.

You say that you base your knowledge of "the amount of extracted honey produced upon the number of cases and cans made and sold," and that you think this "is a safe criterion." An "estimate" on such a basis would be very unreliable, this year especially. I talked with many bee-keepers from Southern California, and during the early spring it was expected that the crop would be a large one, and the majority of the producers laid in a stock of cans when the prices were low, so as to be sure to have enough. They therefore bought heavily, expecting a big crop, but the big crop did not come to some of them; at least, it did not reach up to their expectations. One bee-man whom I visited had quite a stock of cans on hand, which he said he would not be able to fill this season. It is possibly true that some bought less than they thought they would require; but where there was one such instance as that, there would be dozens of others who had overestimated, and who will, as a natural result, carry cans over for next season.

If one were to "estimate" the amount of comb honey produced by the number of sections sold in a locality in one season, he would run wide of the mark, for the reason that, as a rule, thousands of sections are carried over unused, and this is true of cans.

We have had a number of men in the field who have been looking this matter up very carefully—men who are buyers as well as producers, and I have their reports in our office of the number of tons of honey in sight. Some of our men have made trips independently, and without the knowledge of the others, and their reports agree closely.

You are entirely correct in saying the market is extremely tender, and is, therefore, important that the exact truth and the real facts be presented. But you will agree with me that our eastern reports of 500 cars or 2000 cars is beyond all reason. Even 300 cars is too many, far too many, if the information that has come to me is correct.

Perhaps our estimate of the California output has been too conservative; but far more harm will be done by putting the figures too high than too low. Still, if I erred on the low side I stand ready to be corrected. But I will say this much: That within the last two days our reporters show that the amount of honey in the San Joaquin Valley will be somewhat greater than we reported or was reported to us, because there has been a late and unexpected spurt of honey; but so far as the southern counties are concerned, I still feel that the amount has been exaggerated.

I do not wish to take the view that our reports are correct, and that your estimate is all wrong; but what I do want most of all

is that the truth shall be set forth in a fair and impartial manner.

Editor York, of the *Amer. Bee Journal*, has had considerable opportunity to note the rise and fall of the honey markets. Concerning what I have already said in regard to the exaggerations of the honey crop in California and elsewhere throughout the United States he makes this comment in the last issue of his paper:

Like Messrs. Burnett & Co., we hesitate to advise those of our readers who have honey to sell what to do about marketing it. And yet we think we are safe in saying that, whenever you can get as good prices as those of last year, it would be well to accept them very promptly.

Having said that, we may also venture the opinion that, before honey is higher in price again, it will likely go lower than the prices quoted now. This we believe because of the feeling that more honey is being held back by bee-keepers this season than in many a year before.

It is exceedingly unfortunate that there seems to be no reliable way in which to get at the exact amount of honey produced. Were that a possibility, the matter of prices could the more easily be controlled.

THE JOINT SESSION OF THE AMERICAN POMOLOGICAL SOCIETY AND THE NATIONAL BEE-KEEPERS' ASSOCIATION AT BUFFALO, N. Y., SEPTEMBER 12.

THIS great meeting was a success in every way. Just before the opening of the session, the bee and fruit men fraternized in a way that would indicate that there never had been any trouble, and never could be, among the intelligent classes of both industries; and the subsequent discussion bore ample evidence of this. The bee-men were entertained most royally, for, indeed, we were the guests of the pomologists. President Watrous called the meeting to order, and then invited the executive officers of our Association to take seats up in front.

The first regular address to which we listened was one from Prof. J. M. Fletcher, of Ottawa, Canada, on the subject of "Bees as Fertilizers of Flowers." Prof. F. is always an interesting speaker, and he gave us a treat. By means of various charts he showed how nature had apparently designed that some sort of strong insect like the bee should scatter the pollen from one flower to another; how she had even gone so far in some instances as to put up certain obstructions, absolutely compelling the bee fairly to wallow in the pollen, dusting itself from tongue to sting before it could escape. He further gave it as his opinion that the interests of the bee and fruit men go hand in hand; that certain kinds of fruit could not mature properly without the work of the bees.

We next listened to an interesting address by Prof. S. A. Beach, of the Geneva Experiment Station, Geneva, N. Y., on the subject of "Spraying Fruit-trees When They are in Bloom." I have already placed before our readers the main portions of a similar address that he made about a year ago. I will just briefly state that, after a long series of experiments conducted by him, at Geneva, and by his colleague, at Cornell University, the conclusion was

reached that the spraying of fruit-trees while in bloom, in some cases not only did no good, but was a positive injury in others, because the poisonous fluids destroy or injure the delicate parts of some flowers as well as the pollen of others. There was no question, he thought, but that the spraying-liquids do kill bees in large numbers when these mixtures are administered at the wrong time; that so many were killed that the bee-keepers in several States secured the passage of laws forbidding spraying while in bloom. Since then a large number of experiments, at the request of the fruit-men, have been conducted, each showing that, aside from the damage done to the bee-keeper, the former could not afford, if they would consult their own interests, to spray at such times, even if the little bee were taken out of the account.

We next listened to Prof. M. B. Waite, Assistant Chief of Vegetable Physiology and Pathology of the Department of Agriculture, Washington, D. C. Prof. Waite issued a bulletin in 1895, detailing a series of experiments that showed, or seemed to show, at least, that the bee plays a very important part in the dissemination of pear-blight from tree to tree. Prof. N. B. Pierce, Pathologist of the Pacific Coast Laboratory, and Mr. N. W. Motheral, Horticultural Commissioner, of Hanford, Cal., together with Prof. Waite, referred to, it will be remembered, have placed the responsibility for the spread of the blight, or at least a part of it, in California, on the bees.

Prof. Waite is a gentleman of pleasing appearance, and, so far as one could see, as we listened to his interesting address, he is one who endeavors to be perfectly fair, and consistent with truth. While he stated before this joint meeting that the bees could and do spread the pear-blight, he did not wish to be understood as urging that they were the only means for its dissemination. He admitted that there are other insects and wild bees in sufficient numbers, possibly, to scatter the pear-blight, so that, if all the bees that are in the control of man should be removed from an infected region, it might not bring any improved condition. He further believed, from a long series of experiments that he had conducted, despite the fact that bees could spread pear-blight, they were very necessary to the fruit-man, and that he has himself, in his own pear-orchard, kept a few bees, not for the honey, nor because he was directly interested in the bee-business, but because he desired them for a purpose, and that purpose was to fertilize the bloom of his trees. Such a statement, coming from a man occupying the position he does, puts him in the attitude of one who recognizes the value of the bee, and who, so far from condemning them, feels that they are necessary to the fruit-men in spite of the damage that they may do.

The last address of the evening was one from Mr. H. W. Collingwood, editor of the

Rural New Yorker, on the subject of "The Pomologist and the Fruit-grower." This was delivered in a clear, strong voice, and at numerous times his pungent and salient hits brought down the house with rounds of applause from both the bee and fruit men. He very kindly tendered me a copy of the address, and I take pleasure in presenting it to our readers. It is well worth reading carefully clear through.

I am not a bee-keeper, although I help keep my neighbors' bees. I don't pretend to be a pomologist. I'm a plain fruit grower, far enough along to realize that, with all his proud dominion over the lower forces of nature, man can not produce the finest and most perfect fruits without the help of his friend the bee. That, I believe, will be the conclusion of every fruit grower who will really study the question.

The relation between the fruit-grower and the bee itself are physical, mental, and moral. Interfere with a bee's notion of duty and right, and he at once administers a stinging rebuke to those faint-hearted humans who permit others to interfere with their homes and privileges. Perhaps some of you have heard of the young man who said he called his sweetheart "honey," and in 24 hours she broke out in an attack of hives.

The mental relations appear when a thoughtful man studies the wonderful life and habits of the bee, and the social order that prevails inside the hive. That man must admit that even the civilization that has been inspired by human wisdom falls short of this in some essentials of justice and equity. The moral aspect appears when in the latter part of summer, the bees swarm to your fruits, and you try to follow out the principles of the Golden Rule in your relations with the bee-keeper. You learn then how much easier it is to be a bear than it is to forbear. One must learn to use the memory of services rendered as oil for the rusty machinery of patience.

There are two worthy citizens who upset the theories of the scientific men—Jack Frost and Mr. Honey Bee. Ice and honey are two crops which remove no fertility from the soil. A man might cut ice on his neighbor's pond for years, and make a fortune by doing so, yet all his work would cut no ice in the great American game of robbing the soil. The pond will not be injured in the least. In like manner my neighbor's bees may take a ten of honey from my fruit-trees, and it may sell at a good price, yet my farm has not lost five cents' worth of plant food, nor would I have been a cent better off if the bees had not taken an ounce of the nectar, but had simply acted as dry nurses to my baby fruits without pay or reward. Both frost and bee bring unnumbered blessings to man, yet most of us will spend more time growling at some little injury which they do as they pass on than we will in praise and thankfulness for all the benefits they heap upon us. I have known fruit growers and pomologists who, when they find the bee sucking some cracked and worthless old fruit, to forget that the bee did more than they in the making of these fruits. If they were in the bee's place they would probably demand 75 per cent of the finest fruit in the orchard as payment for their labor. Such folks make me think of the housekeeper who found fault with the minister. The good man came into the house of sickness with a message of divine hope and love and faith. He cheered the hearts of all; and yet when he went away the housekeeper found fault with him because he forgot to wipe his feet on the door-mat, and tracked some mud upon her kitchen floor. What a world this would be if we could learn to judge others, not by their little weaknesses, but by their great acts of loving service!

If one would look for the ideal relations between the fruit-grower and the bee-keeper he would find them inside the modern cucumber-house. The cucumber is "cool" way down to the courtship of its flowers. Matrimonial agents are required, and formerly these were men who went about with soft brushes dusting the pollen upon these bashful flowers. It has been found that bees will do this better than the men, and most cucumber houses now have their swarms of bees. Inside the glass house the grower has no desire to throw stones at the bee keeper, because they both wear the same clothes; and the man who can not get on harmoniously with himself has no business out of jail. I say that, we know that some of the darkest life tragedies in the world's history have been caused by the evil side of a man's nature obtaining mastery

for the moment over the good. In the orchard or fruit-farm the conditions are very different. Here a man may feed the bees which belong to somebody else, and he does not, like the cucumber-grower, see that the bees actually save him the wages of a workman, which would be nearly as necessary without the bee. Most men do not, I think, fully understand who the bee is and what he really does. Let us state his case fairly. I understand, of course, that common facts about the bee must be an old story to those who are here. The greatest value of such a meeting is the fact that one may talk over your heads or through you to the thousands who will never join either society, and yet who will profit by your work.

THE BEE AS A CITIZEN.

Man has never tamed the bee as he has the horse or dog or ox. These animals have surrendered their freedom, and tamely submit to man's dictation, changing even their shape and vital functions at his will. Turn them loose, and after a few hours of clumsy freedom they will come back and beg to be taken under shelter into slavery. Even man himself loses the savage independence and love of liberty he knew when free as the hills, and at the behest of civilization puts his neck under the heel of those who are morally his inferior. Not so the bee. He has never surrendered the freedom that goes with wild things and wild life. Man coaxes and partly directs him, but he is still untamed, and still retains the courage and fearlessness which civilization takes from the heart of most animals, including man. Left to itself the swarm of bees will not come begging shelter from man, but gladly and fearlessly fly off into the wilderness, to live as its ancestors lived.

The bee starts with the scope and purpose of its life-work clear. It does not need to go to school. From the first gleam of consciousness the bee knows that it is born to toil, without reward without hope of posterity. Instinct, heredity, spirit, call it what you will, drives the bee on to labor without ceasing, without holidays or hours of lazy ease, and for what? Simply for the future—that dim mysterious time for which he is ever prompted to provide. I said that the mental side of this question will present itself to any thoughtful man. Truly the lesson of the hive goes deep into the human heart and soul.

THE BEE AS A WORKER.

As a boy I was brought up on the "busy bee" theory. The old man who considered himself responsible for my industrial training gave me to understand that the bee is a tireless worker who toils for the love of it and never quits. He wasn't trying to get me interested in the study of natural history—he was trying to get me to realize that some one loved to work, and he knew that he didn't. I am sorry to break down this ideal of childhood, for I have searched hard to find something that has no blood of the shirk in its veins. I can't tell my children the old story, for they will soon know that most bees in New Jersey appear to start work at 7:30 to 8 A.M., and knock off at 4 P.M. On wet days they usually quit entirely. This is much like the average hired man, who will take advantage of a light sprinkle to come in and sweep up the barn floor. The bee works on Sunday while the hired man rides his bicycle. When the bee does start he keeps at his work, while the hired man stops to look at the clock.

When you tear down the childish ideal of the busy bee, and find that it has some of the bad habits of mortals, you do not destroy the whole picture. That would be true with some men; but with the bee it only brings to view a higher ideal than ever. The bee does a fair day's work, and then goes home and puts in a part of the night. A man after doing his work in the field, will hardly help his wife wash the dishes after supper, but the bee works like a slave through the darkness at the wonderful task of manufacturing honey. The short day of hard and consistent work furnishes enough for the hive workers. If all men worked as the bee does, with as fair and just a division of labor, what a world we should have! The short, hopeful day's work would be sufficient if the idle and the rich would cease to live on the earnings of the overworked poor. The society in the hive permits but few drones, and kills them off as winter comes on, while human society increases the number. Thus as we grow older we find that the bee is not the poor aimless drudge we thought him, but rather one who lets his wits save his wings.

THE BEE'S GOOD WORK.

We can easily forgive the bee his short working days when we consider the good he does. There is no

question about the debt fruit-growers owe him. People talk about the wind and other insects in fertilizing our flowers; but I am confident that any man who will really take the time and pains to investigate for himself will see that the bee is nearly the whole story. I have seen the certain results of his good work in a neighbor's orchard. Those bees "broke the trees" down just as truly as though they had climbed on the trees by the million and pulled at them. The appearance of those trees after a few years of bee-keeping would have convinced any fair-minded man that our little buzzing friends are true partners of the fruit grower.

It has been said that the bee does not do this work because he wants to. He is pictured as a greedy, selfish fellow, born into the world with a single idea, who dusts his jacket with pollen, and does his work as dry nurse simply as an incident. Nature puts the brushes on his legs and stomach, and he can not help using them. Here again he is not unlike men. Most of us fight and slave and toil for our own selfish ends. We try to shake the good intentions out of our jacket, and a large proportion of the good we do in this world is done as a side incident, as we press on to accomplish something for ourselves. To my mind this is only another illustration of the wise and beautiful provision of Nature to lead the bee from flower to flower with some motive of personal gain, and in this way compel him to do his work for pomology. I would that humans who toil, even past the allotted years of man's life, after wealth and power, might as surely leave behind them perfect fruits for the toil of others. The stout legs of the bee, as he crawls from flower to flower, kick life into the baby fruits. Surely with this in mind the pomologist can have nothing to "kick" about.

But ambition and the gratification of personal desires lead both bees and men to scatter evil as well as good. All wings, except those of angels, attract and will carry the germs of evil if they rub against it. It is quite likely that bees will carry the germs of pell-mell from one tree to another—perhaps in quantities sufficient to spread the disease. Let us admit that; and yet no pear-grower who knows his business would have the bees stay entirely away from his trees. The bee also injures fruit to a certain extent. There may be times when he actually leads in this bad work. When he does, he is starved to it. If he were fed at home, as every other farm animal would be at such a time, he would seldom do the mischief. In ordinary seasons I find little fault with the bee for sucking this cracked and broken fruit. We really ought to thank him this year for delivering us from the temptation to pack these worthless culls in the middle of the barrel. Our bee-keeping friends tell us that there is always some rascal that goes ahead with a punch, and breaks the skin before the bee will suck the juice. The yellow-jacket is said to be the culprit, and he is a safe one, for no one cares to argue the point with him. I don't like this hiding behind a yellow jacket. It is too much like the way some of these Christian nations have acted in China. Li Hung-Chang and other yellow jackets before him have robbed the Chinese people for centuries, but that is no excuse for the looting and stealing on the part of white men. Should not the bee keeper feed his bees when their natural food is scarce and they really injure fruit? When I neglect to feed my dog at home, and he runs to the neighbor's back yard for food which might feed the pig, have I a right to complain if the neighbor lives up to his legal privilege? My neighbor ought to remember that it was my dog's bark that tanned the hide of the tramp that frightened his children; but some neighbors are not built that way. They are like some pomologists who object when the bee tries to take pay for his services in a few rotten fruit. I am not sure that home feeding would keep bees entirely away from the fruit. There are human beings who will run out of the best of homes. In fact, the more you feed them the more they run. Bees are much like humans in many respects. It is quite likely that a systematic method of feeding during honey-dearths in summer would eventually pay the bee-keeper, just as many dairy-men have become convinced against their wills that it pays to feed grain to cows at good pasture.

THE BEE AS A LAWYER.

Before the law the bee appears to have clearer rights than any other domestic animal. Recent legal decisions have made the bee's position very clear. In one noted case the bees flew into the orchard and unquestionably worked upon or damaged broken fruit. The jury finally decided, and I think justly, that the bees committed no real damage; yet had a

cow or a hog broken into that orchard and eaten that same fruit the owners would certainly have been liable for damages.

After reading the literature of the subject with great care, I think I am justified in saying that the bee has fuller and more complete legal protection than any other domestic animal. Why should not this be so, since, even in its wild state, untrained or directed by men, the bee is led by its very instinct to labor for the benefit of humanity? Certainly no wild animal works for men as the bee does, and no domestic animal accomplishes so much without direct harness or guidance.

Invoking the law against bees is running up against a hard proposition. Laws have been passed against spraying fruit-trees while in bloom. They are intended to give the bee legal protection. These laws have actually led some tough old fellows to spray at just that time, so as to kill the bees. The law was a suggestion of slaughter to them. Some men are so perverted that they see a wrong and coddle it as a "personal right." These laws have helped the fruit-grower more than they have the bee-keeper, because they have led the scientific men to investigate and tell us *why* it is a mistake to spray too early.

It appears to have been settled that, before the law, bees are to be considered domestic animals—not naturally inclined to be offensive. A fair synopsis of the bee's legal status is about as follows:

1. Bees kept by a regular bee-keeper have become absolute property as domestic animals, and therefore enjoy legal rights.

2. The bee is not naturally savage. It is no more likely to commit serious damage and mischief than dogs, cats, cows, or horses.

3. The law looks with most favor upon those animals which are most useful to man. No animal is of more actual service to man in proportion to his size and the mischief it commits than the bee.

4. After bees have been kept in a certain situation for a reasonable time without serious injury, it can not be said that it is dangerous to keep them there.

5. The bee-keeper becomes liable for injuries done by bees, only on the ground of actual or presumed negligence.

This seems to give the bee a clear field to go ahead about his business in his own way. It must be said that this strong legal position of the bee is largely due to the fact that bee-keepers have picked up some of the strong traits of the bees. When one of their number is attacked, they do not sew up their pockets and run off with their share of the honey, and as much more as they can get. They fly at once to the defense of their comrade, and make, not an individual, but a society matter of it.

The fruit-grower will obtain little satisfaction in a lawsuit against the bee or the bee keeper. The bee is too good a friend of the judge. The relations between these two classes should be settled, not by the scales but by the Golden Rule. Every man who receives a benefit should remember where the benefit comes from. The bee-keeper might say with truth: "It is true that my bees feed upon my neighbor's trees; but they have not injured his farm, because they took no fertility away! He has no reason to kick, because they kicked life into his fruit-buds."

This is all true enough, but it is only one side. The fruit-grower may say:

"These bees have increased my crop of fruit, but have they not been well paid for their work? I fed them, and the money in their owner's pocket comes from my farm!"

Two classes of men with interests which lap and nick in this way should never fight; for when one of them hits the other in the nose he is sure to blacken his own eye. They should recognize their mutual dependence, and treat each other fairly. The bee-keeper may say that the law gives him a right to put his hives close to another's dwelling. Still, if that location is offensive to his neighbor, the law which is higher than the decision of any human judge should lead him to put them elsewhere. I have heard of an old farmer who insisted on keeping an old brindled calf tied on his lawn. The calf was in every way offensive to his neighbors, and he had ample space for it behind the barn; but he thrust that calf under the very noses of his neighbors, because the law said he had a right to do as he pleased with his own. That man, like many others, figured that such magnifying of his legal rights gave increased dignity to his personal rights; and what a foolish mistake he made! The man who will use his legal privileges as an offensive weapon against others, when it should be drawn only in defense of true principles, is not a true pomologist or bee-keeper.

I regard the raising of fine fruits, and the training and rearing of bees, as the highest types of soil culture, and hence of human industry. He who can direct and watch the slow development of the perfect fruit, and lovingly guard it from plant disease and injurious insects through the long road to perfect maturity; and he who can patiently and skillfully guide and train the honey-bee through its long master's work—such men ennoble and dignify labor.

Their work may be hard and constant. Their hands may be hard and rough; but the callous on the palm is not a badge of servitude, but an honorable scar from labor's battlefield. Such men are not mere drudges, with body and spirit broken on the hard wheel of labor; but, dealing with the fine and most delicate problems of nature, they keep step with the Creator; they are in direct partnership with God himself; and, as such partners, they, of all men, should be guided by the wisdom and justice of the Golden rule.

A. I. R. says that the *Rural New-Yorker* fairly bristles with bright, witty, sensible, and practical talk all through. It is a clean Christian paper that takes no advertising of a doubtful or questionable character, and its editor, Mr. Collingwood—well, you can judge of the man by his address as above given. GLEANINGS would like to have every one of its subscribers also a patron of that grand paper, the *Rural New-Yorker*. We will club GLEANINGS and this paper for \$1.75. We can club other papers of equal size for less money; but they may not and probably do not contain the real worth that this does.



STARTING A NEW HOME.

Therefore I hated life; because the work that is wrought under the sun is grievous unto me; for all is vanity and vexation of spirit—ECC 2:17.

But Martha was cumbered about much serving, and came to him, and said, Lord, dost thou not care that my sister hath left me to serve alone? Bid her, therefore, that she help me. But Jesus answered and said unto her, Martha, Martha, thou art careful and troubled about many things. But one thing is needful.—LUKE 10: 40-42.

There are many points about the two texts I have chosen that might be considered; but just now I am going to talk about only one of them. Doubtless thousands have felt something as Solomon did, when considering the demands of society and fashion of the present time—so much care and worry if one half tries to do as other people do. Solomon probably kept lots of "help," and very likely the "hired girls" of oriental time were much like those of the present day. Any way, he says he "hated life" because he found it all "vanity and vexation of spirit." Now mind you, friends, I have no special grievance with the hired girls, for I rather think Solomon was *somewhat* at fault; and, by the way, I fear we are *all* more or less wrong when we complain of our help. How bright and pleasant the words of the Savior come to us after listening to Ecclesiastes! He knew *all* about the *care* and *worry*, and yet he tells us so plainly it is all, or at least a great part of it, unnecessary!

You know I have been considering for months a very humble, inexpensive "home in the woods." Perhaps I should say *we* instead of *I*, for Mrs. Root and I have talked it over, and planned, for more than a year; but it was not until Sept. 19 that we got away from our old home. Boxes, trunks, etc., had been shipped ahead, so that, when we reached the new home, our house with its one room, 14 by 20, was pretty well filled up. I went on ahead on my wheel to get the keys, and Mrs. R. came with a friend the last part of the way. As she came out of the bushes and got a glimpse of the house, I waved my cap, and said:

"Well, how do you like the looks of the new home?"

Before she had a chance to answer, her companion replied:

"I think, Mr. Root, perhaps she likes the 'home' rather better than the *road* that leads to it."

Although my leafy avenues are usually very pretty and inviting, they are not exactly suited for a high-seated vehicle so early in the morning. Her hat was pulled off her head by the bushes that meet overhead, and she was drenched with the dew that is always very heavy, and which sometimes lasts until almost noon. Mr. Hilbert's folks had urged us to stay and rest up over Sunday; but we were both very anxious to get to work on our own ground. In a twinkling she was in the midst of the boxes and things, while I stood by as her "obedient servant." While I was gone to the "spring for water" she had planted a box in one corner, covered it with a white spread, and the china and other useful things began to look homelike and inviting as well as useful. With hammer and nails, scissors, tacks, pins, etc., she has been at work now, as I write, a whole week; and I really believe both of us will often look back and call this one of the happiest weeks of our life. My experiment is, at least so far, a decided success; in fact, it is one of the "happy surprises" of my life. I will tell you why. There are thousands who do not make "both ends meet," and are sinking in debt, because they think they must conform to the usages of society. There are other thousands of young people who might get married and start a happy home all of their own if they only knew how few things are really "needful" (the Master has said, "but *one* thing is needful"). Let us look at the matter a moment. This house, where I sit writing, and which is dearer to me than any home I ever saw before, cost, all told, less than \$100. When we moved in, it had cost less than \$40. Of course, lumber is cheap here. A big team drew all the materials complete at one load, and in one day the house was fit to live in, in warm weather.*

* The walls are made of inch hemlock that cost, delivered, \$9 per thousand. We took boards 16 feet long and cut them once in two so that one piece was 9½ and the other 6½ feet long. The short pieces made the lowest side, under the eaves, and the long ones the tall side, the roof sloping only one way. The same kind

Let us go back to that first day. Notwithstanding the hurry and disorder, a little before dinner-time Mrs. R. had a repast on our little round table, fit for a king. I don't believe any king ever enjoyed a dinner as we did that. We had spotted trout from the bay;* Early Michigan baked potatoes, grown on our own ground; Early Crawford peaches from our nearest neighbors, and every thing else that two tired children ("children" over sixty years old) could ask for.

When I wrote about potatoes for table use, and gave you that picture, I had never tasted the Early Michigan, grown in this region, and really did not *know* until that time how nice a baked potato could be. This locality, with its bracing air, of course makes every thing nice.

I want to tell you of some of our happy surprises that we never could have had if we had not been doing the work ourselves. Many people who come to this region for a summer outing go to the hotels and pay several dollars a day for board and lodging. Of course, that is all right if they wish to do so; but Mrs. Root and I find happiness in a different way. On the spot I chose for our cottage there is no level ground. Our house is on a side hill. Well, wood is cheap here, so Mrs. Root asked me to have some of the nice maple-trees made into stovewood when we were clearing off a place for the garden last winter. When the wood was nice and dry we had it split fine, and piled under the floor of the building to keep it out of the rain. For several days I got the wood out from under the building, carried it around to the door, and put it behind the little cook-stove almost exactly over, but a foot or two *above*, the spot where it is stored in bulk.

One evening Mrs. Root startled me by suggesting if we had a trapdoor in the floor, right under the "door" to the stove, "carrying in wood" could be done away with. In a twinkling, that very evening, I made the trapdoor, and now our shavings, kindling, and dry maple wood are all close by the stove, and yet they are where there is never any dirt or litter to be swept up. The surface of the ground (which is always dry in this region) is about two feet below the floor. I offer this suggestion to those

of 16-foot boards made the ends by cutting them in twice once on a bevel. The carpenter said several times my plan would not work; but he was one of the kind who went ahead when I told him I would "take the chances." The ends of the boards were not squared at all, and there was no need of it, for they were all out of sight when the building was done. Building-paper was put over the rough board walls, and then walls as well as roof were covered with cedar shingles. As this is where cedar grows, the shingles cost me but 90¢ per M. The window-casings, cornice, corner boards, etc., are painted green, which makes a very pretty contrast with the cedar shingles.

* Very fair-sized fish, large enough, in fact, for one fish to make me a comfortable meal, are sold here for only fifteen cents a dozen. They are scaled and the insides removed, at this very low price. I verily believe one secret of my good health here is the abundance of nice fresh fish. A great deal of the time my diet is "bread and fishes," "milk and honey." If you will just think of it, it is what the Savior gave his followers when he wanted to give them a little banquet.

who like things nice and tidy, and who may be glad to know of a way of abolishing the whole business of carrying in wood, and its attendant trouble—dust and an empty wood-box. Mrs. Root found that a spring thirty rods from the house would be found a great inconvenience; but so far I have rather enjoyed the walk. We have a rain-water barrel close by the door, and it has so far contained enough, only it is pretty strongly flavored (and tinted) with the cedar shingles.

You may remember I was here in May, and planted a garden. Well, we supposed most of the stuff would have been matured and gone by the latter part of September. Not so. This wonderfully fertile soil (at least wonderfully fertile on our new soil of "woods dirt") seems to have kept the stuff growing; and green corn that was in its prime a month ago is even yet the most delicious green corn I ever ate; and Mrs. Root declared at dinner to-day that the snap beans I brought in were nicer than she ever thought snap beans could be, and yet there were dry pods of mature beans on the same stalks. Well, it surprises us to know what a very small piece of rich ground it takes to provide a great plenty for two people, even if the two *do have* wonderful appetites. A good dinner at 50 cents is usually considered cheap enough; but our meals do not cost 15 cents for both of us, and yet we have fish, meat, fruit, and every thing we want. One great reason for this is that not a thing is wasted. At first we were in somewhat of a quandary without a refrigerator; but Mrs. R. sent to the store for a box, and wire cloth enough to cover one open side. This wire cloth was put on a door to open and shut; and after our meat, fish, milk, etc., were placed on shelves in this box it was placed on a shelf on the north side of the house. The nights are cool, and the air is cool nearly all day, out of the sun. There is nobody around to steal, for we are too far away from the main road; and who would expect to find people living away out here in the dense woods? Our windows slide horizontally instead of up and down, and I greatly prefer this arrangement. Under one of the north windows we have a shelf outside on which to place any thing that is to be kept cool. This shelf and window, and, in fact, all the windows, are covered outside with mosquito-netting to keep out flies.

For a kitchen table we procured a large dry-goods box, of the proper height. One side and one end are open. The box has shelves inside; and as fast as the utensils are washed they are placed on these shelves. Not only every day, but almost every hour, we discover some new short cut in the work of getting the meals. For the first time in our forty years of married life we are working side by side all day long. You may say it is not every man who can afford to drop business and be "hired girl." Well, most men can take a vacation at least a part of the year, and this is *my* vacation.

If king Solomon had carried in wood for his wife (?) to bake with, brought water from the spring, and "whacked" carpets, he would never have "hated life," and called it all "vanity and vexation of spirit."

Ask the doctor why so many people are sick, and he will tell you it is because we are getting so far away from nature and plain and simple living. We two are in the woods all the time, and, in fact, we are out of doors most of the time, in ordinary, rather light clothing. At home I wore an overcoat and fur cap, even when the temperature was above 70; but here I am out of doors in my shirt-sleeves, and quite comfortable at 50. Candidly, I do not know *why* this is so. This health-giving locality has much to do with it, no doubt; but "out in the woods" *all the time* is *something* of a factor, I am sure.* Not only my garden but my fruit-trees are growing *wonderfully*. They lay at the depot until in bad shape, and were put out quite late, because I was delayed in getting here. I found several peach-trees to-day that filled the wire attached to the label until said wire had nearly cut off the top of the tree. I went over them in July, and thought I fixed all the labels; but it seems I didn't. My neighbor, Mr. James Hilbert, is now fitting the ground to plant 30 acres of peach-trees in the spring. These sandy hills seem to be specially adapted to peaches. The quality is beyond any thing I ever saw; but the usual way of managing is to let the tree break all its limbs off by its overload of fruit about the third or fourth year.

I have been very anxious to know if Mrs. Root would share my enthusiasm; and I was, therefore, greatly pleased, a few days ago, to hear her say she would like to stay here till Christmas if it were not for the awful job of housecleaning that looms up before her day and night—not housecleaning here (with our one room), but in the big brick house in Medina. You get a glimpse of it in the ABC book. Why not *hire* help? We can't get any. A few years ago, when women were scarce who would clean house, several young men "took lessons," and did very well; but now they too have gone out of the business. She says that, even though a large part of the house is now unused, the empty rooms must be "cleaned" twice a year, just the same. A few years ago we had paper collars that were never cleaned. In some restaurants, even now, they have paper napkins. When they are soiled they are burned up and new ones bought. Well, why can't we have "homes," or perhaps I should say *houses*, that can be burned up or given away when housecleaning time comes, and then just get a new one, bright

*I have told you Mrs. Root has been for years troubled greatly with insomnia. Now she goes to bed early, and sleeps all night until daylight. In fact, she is now sound asleep on the lounge by my side while I am writing. She did the washing for us two this forenoon, because there isn't a washwoman to be hired within miles of us. She had it nearly done before I knew any thing about it. Now, is this great gift of health and enjoyment due to the locality, or is it because we are getting back to pioneer times?

and clean? Of this I feel sure: Our houses are, many of them, too large. Mrs. R. has for years longed for a little house that can easily be cared for, and now she has one.

What shall we do with friends when they come to see us? Well, that is a serious matter. We might "fix 'em up" on the roof, in warm weather; and, in fact, our roof is only a little way up. So far as meals are concerned, our garden is full of stuff we are trying to give away, and our nearest neighbor has butter, milk, and eggs to sell, the year round.

Dear friends, I have talked about the first text some, but have had little to say in regard to the last. Do you not believe the dear Savior meant to say to us that we are making too much of things that are comparatively *unimportant*? Are we keeping in mind sufficiently the "one thing" needful? It is the fashion almost everywhere to have a great lot of dishes with which to serve a meal. Next time you go to a city hotel, suppose you count the number of dishes brought you. All these must be washed; and in "our homes" dishwashing is almost as much dreaded as housecleaning. In our home in the woods there are only a few dishes to wash, for, to tell the truth, we haven't got them; but please do not understand that our table is uninviting in its appearance. Our 14×20 room is divided in the middle by soft white curtains, and our dining-room and its appointments would do credit to a first-class city restaurant. It is, in fact, *cleaner* than many of them (for you may be sure no liquors are served), and the table contains fewer dishes. Mrs. Root has just declared it is easier to do the work here than in that other home that cost—I declare I am almost afraid to tell the truth, for it *really cost forty or fifty times* as much.*

What should we do with our money if all the world lived as we do? First, feed the millions that are starving. Send missionaries and expert teachers to the uttermost parts of the earth, and teach the unfortunates how to grow potatoes, and how to make *every* land "a land flowing with milk and honey."

Now, although it seems to me such an *easy* thing to get a living here, I meet people almost every day who are selling out and moving away. They say it is awful hard work getting a living where there are so many "stumps" and "hills." Oh dear me! I only wish we could get rid of our one saloon as easily as we get rid of *stumps*. The saloon is taking the earnings of the poor hard-working people, and then they attribute their bad luck to the "stumps."

It is now the season for "husking-bees," and I told Mrs. Root I thought we would

* One reason for this is, that here there is no dust, and almost no mud. Dusting furniture would be labor lost, for no dust can be found. As soon as it stops raining we can walk, or ride, wheel; and the harder it rains, the better the roads, unless in a few spots on swampy ground. With very little care, no mud or dirt need be tracked into the house. No water ever stands in puddles and underdraining is practically unknown except in springy places.

go; but when some one said the boys would not "turn out" unless a keg of beer were provided from the saloon, I uttered a mental prayer that husking-bees, at least that kind, *might* go out of fashion. I have no quarrel with the big wide world. Let every one seek and find happiness according to his own notion; but I have been so happy of late, and in such an innocent and inexpensive way, I felt as if I must tell you about it. Yes, I have thought of Diogenes and his tub, and his freedom from care and worry; but I don't think I should like his extreme doctrine. If he would make that tub about "14×20 feet," with a good roof over it, perhaps I might agree with him.

Does some one suggest that, if I don't look out, I shall get into "small" and "stingy" ways in my old age? God forbid! It has been my privilege for years past to give material help to missions and industrial schools in our own and foreign lands. I do not expect these annual contributions to be lessened as the years go by; in fact, I hope it may be the other way. And now that I think of it, these industrial schools are finding happiness and great success along just the lines I have been writing about. The school for ministers, described in our Sept. 15th issue, is one of that kind.

Finally, dear readers, did not the greater part of our great and good men come from very humble homes, where modern luxuries were entirely unknown?

"Wherefore do ye spend money for that which is not bread, and labor for that which satisfieth not?"

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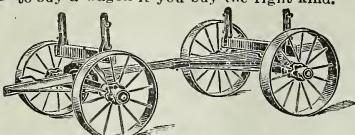
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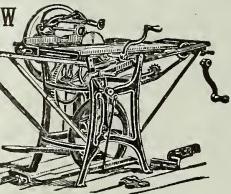
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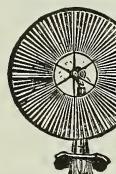
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WANTED.—To dispose of my olive-ranch and 85 colonies of bees, located 12 miles from San Diego, California; near church, school, store, postoffice, and railroad station. Extracted 19,000 lbs. from 50 colonies, spring count, this season; have taken honey every year since I came here. The best of climate. Write for particulars.

J. B. RATCLIFFE, Helix, San Diego Co., Cal.

WANTED.—All the bees we can get; must be extremely cheap at this time of year. Parties who will place us in correspondence with those having bees to sell, will receive one to a half-dozen selected queens free next June, according to the number of colonies we succeed in purchasing from said parties. H. G. QUIRIN, Parkertown, Ohio.

WANTED.—To sell our entire plant and situation, including a complete line of machinery for manufacturing bee-hives, comb-foundation, etc. In connection with same we have a first-class up-to-date planing-mill in every respect. Our good will and list of customers goes with it. This is a bargain and will pay you to investigate. Address W. R. GRAHAM & SON, Greenville, Texas.

WANTED.—To sell 104 colonies Italian bees in The A. I. Root Co.'s 10-frame hives; heavy top-frames; wired full brood sheets of medium foundation; all drawn combs; queen excluders; combination stands and bottom boards; $\frac{1}{2}$ gable top, $\frac{1}{2}$ super covers; all new and well painted; located in a 6000 acre pasture just above the mouth of Leona River, on the Frio; the natural home of the honey-bee, and no apiary near; every thing on the range that produces honey in Texas, with over two years' privilege yet to run. This is a bargain—the most complete outfit in Texas; can give time on part; six miles from railroad. I have not extracted since early last spring. My wounds have again broken out, and I can secure no assistance from U. S. Pension Department, no friends on earth to assist me, so I will close out apiary, and go back to the Los Angeles, Cal., Soldiers' Home, and wait patiently for reveille to blow lights out for me. Prompt action necessary.

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